Environmental Assessment for the Federal Law Enforcement Training Center Land Transfer, Artesia, New Mexico

DRAFT

Prepared for:

Federal Law Enforcement Training Center
1300 West Richey Avenue
Artesia, NM 88210

and:

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FEBRUARY 2002

US Army Corps of Engineers®

Acronyms and Abbreviations

° F	degrees Fahrenheit
AAM	Annual Arithmetic Mean
AAQS	Ambient Air Quality Standards
ACHP	Advisory Council on Historic Preservation
AGM	Annual Geometric Mean
AUM	animal unit month
BLM	Bureau of Land Management
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFO	Carlsbad Field Office
CFR	Code of Federal Regulations
CO	carbon monoxide
EA	Environmental Assessment
EO	Executive Order
EIS	Environmental Impact Statement
ESA	Environmental Site Assessment
FLEFA	Federal Land Exchange Facilitation Act
FLETC	Federal Law Enforcement Training Center
FLPMA	Federal Land Policy and Management Act
FONSI	Finding of No Significant Impact
GPS	Global Positioning System
H_2S	hydrogen sulfide
$\mu g/m^3$	micrograms per cubic meter
mph	miles per hour
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMDGF	New Mexico Department of Game and Fish
NMED	New Mexico Environment Department
NMRPTC	New Mexico Rare Plant Technical Council
NO_2	nitrogen dioxide
NRHP	National Register of Historic Places
OSHA	Occupational Health and Safety Act
O_3	ozone
OAO	Office of Artesia Operations
Pb	lead
PCPI	per capita personal income
PLSS	Public Land Survey System
PM_{10}	particulate matter less than 10 micrometers in diameter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
ppm	parts per million
PSD	Prevention of Significant Deterioration
RCRA	Resource Conservation and Recovery Act
REC	recognized environmental concern
RMP	Resource Management Plan
ROI	region of influence
ROW	right-of-way
SHPO	State Historic Preservation Office
SLO	State Land Office
SO_2	sulfur dioxide
TSP	Total Suspended Particulates
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VRM	Visual Resource Management

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DRAFT FINDING OF NO SIGNIFICANT IMPACT

1.0 NAME OF ACTION

Environmental Assessment (EA) for the Federal Law Enforcement Training Center Land Transfer, Artesia, New Mexico.

2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

The Department of the Treasury's Federal Law Enforcement Training Center (FLETC) currently provides law enforcement training programs at its Special Training Complex in Artesia, New Mexico. The complex is used to provide firearms and driver training to law enforcement personnel. The complex is located north of the Artesia Municipal Airport. FLETC owns 1,040 acres of land at the complex. An additional 240 acres of New Mexico state-owned land is leased to FLETC for use as an ammunition safety zone, and 240 acres of Bureau of Land Management (BLM) land has a right-of-way (ROW) issued to FLETC for their exclusive use, subject to valid existing mineral leases. FLETC is in need of additional land downrange from its firearms training ranges in order to expand training capabilities.

Under the proposal, the State of New Mexico is offering 440 acres (and the mineral estate) to the BLM in exchange for lands of equal value. BLM has selected 640 acres lands located about nine miles to the west and would exchange all or a portion of this land (of equivalent value) to the State. After the exchange, BLM would transfer 1,280 acres (and mineral estate) to FLETC, increasing their land holding to 2,320 acres. With the additional land, FLETC would be able to provide both handgun (current) and rifle (proposed) training, using ammunitions with longer firing distances. The larger safety zones would be contained in its enlarged land holding. FLETC is also anticipating increases overall in firearms training.

FLETC would construct a perimeter fence around the newly acquired land and a small portion of their current landholding. About 7.5 miles of 5-strand barbed wire fence (with smooth bottom strand) would be installed. FLETC also proposes to allow for continued use of a road and water pipeline that is critical to ranching operations on the existing grazing allotment that encompasses the transferred lands, although grazing on 800 acres of the transferred lands would cease in 2004. Mineral estates would be transferred with surface estate in all transactions. FLETC would discontinue future mineral leasing on the conveyed land, but existing mineral leases would continue.

No Action Alternative

Under this alternative, the proposed land exchange and land transfer would not occur and new perimeter fencing would not be constructed. While there would be no environmental impact from not implementing these actions, FLETC would continue to limit firearms training to handguns and ammunition types that can be safely contained within their current land holding.

3.0 ENVIRONMENTAL IMPACTS

3.1 Earth Resources

There would be minor temporary soil disturbance from digging holes for fence post installation. Using care to minimize damage to soil-protecting vegetation from vehicles during construction would minimize impacts. Lead from munitions debris accumulates in firing ranges, but due to soil conditions, climate, and range designs, is not a health concern. Overall, impacts would be minimal.

3.2 Mineral Resources

The BLM's Carlsbad Field Office (CFO) in southeastern New Mexico manages oil and gas resources, and use of approximately 2,197,000 acres of both surface and subsurface estate. The CFO also manages an additional 1.9 million acres of federal mineral estate where the surface is managed by other surface management agencies (federal or state), or private owners. Withdrawal of 1,040 acres from future mineral leasing represents a very small portion of regional resource. Existing mineral leases would be honored, but conditions of approval may be constrained by existing firing range activities under both the Proposed Action and No Action alternatives.

3.3 Water Resources

There would be no impact to water resources associated with minimal soil disturbance. Alkalinity of soil types in the project area and low precipitation minimize the potential for lead from munitions debris from entering the surface or groundwater.

3.4 Air Quality

There may be minor temporary dust generation from vehicles driving over unpaved areas and from posthole digging during fence installation, but there would be no impact on attainment status of Eddy County from these activities. Because outdoor ranges are exposed to the air, there are no concerns about lead or other residues exceeding regulated levels for pollutants. No other changes in operations at FLETC are proposed, therefore no impacts would result.

3.5 Biological Resources

There could be minor loss of habit from fence construction, but not enough to be a concern for wildlife or sensitive species. The new fence would be aligned to avoid soaptree yuccas with stick nests. Aplomado falcons use stick nests built by other birds. Avoiding disturbance to these nests would minimize impacts to potential aplomado falcon habitat. Decreased grazing on 800 acres could provide minor benefits for some species, and minor negative effects for others, but not to a degree that is a concern for sensitive species. Using smooth wire for the bottom strand of the fence would allow for movement of game in potential antelope habitat. No impacts from increased firearms training would result.

3.6 Cultural Resources

The two historic archaeological sites located on lands associated with the Proposed Action require evaluation for National Register of Historic Places (NRHP) eligibility. Neither site is located where new fence would be constructed and no potential for impact is identified. The eligibility evaluation and consultation with the New Mexico State Historic Preservation Office (SHPO), in compliance with Section 106 of the NHPA, would be completed prior to project initiation.

3.7 Aesthetics

There would be minimal changes in the overall landscape from fence construction. Given the relative low visual resource value of the subject lands and low potential to modify the landscape character, there would be no visual impact. Also, no change in noise levels would result.

3.8 Human Health and Safety

The proposed land transfer would have minimal potential to adversely affect human health and safety. Current procedures and training of students and personnel comply with Occupational Safety and Health Administration (OSHA) regulations. FLETC's maintenance and operations of firing ranges complies with U.S. Environmental Protection Agency (USEPA) regulations. Fencing the acquired land would control public access into areas where there may be hazards from activities at downrange firing ranges. The potential for lead to pose a human health or safety concern is considered extremely low because of the alkalinity of the soil type, climate, and design of firing ranges.

3.9 Land Use and Access

The Proposed Action would result in a slight decrease in permitted grazing land (800 acres) and areas open to future mineral leasing (1,040 acres). In both cases, the extent of land affected represents an insignificant portion of the overall resource in the CFO and greater region. FLETC would allow for continued use of a roadway and water pipeline in the north end of Sections 27 and 28 that are critical for grazing operations in the Brangus allotment. The proposed land transactions are consistent with the CFO Resource Management Plan (RMP) that identifies the subject lands within a disposal zone. Loss of access to the public on 800 acres in Sections 27 and 28 would have minimal impact on dispersed activities such as recreation and hunting due to lack of opportunities on this acreage and availability of abundant alternative land for these uses.

3.10 Solid and Hazardous Materials and Waste

Increased firearms training would contribute to accumulations of munitions debris at firing ranges, and possibly to increased accumulation of lead and other metals, particularly in perimeter berms and bullet traps at firing ranges. A very small amount of such debris may be scattered over the expanded safety zone. FLETC would continue to manage ranges and any other accumulated hazardous wastes in accordance with federal regulations. No impact is expected.

3.11 Socioeconomics

There would be no impact on regional or local economic activity or population dynamics. There would be minor impact on two ranchers resulting from higher grazing fees to one rancher and loss of grazing land for up to 15 head of cattle for another. Withdrawal of 1,040 acres from future mineral production represents an extremely small portion of potential resource in the region.

3.12 Environmental Justice

No significant environmental impacts are expected from the proposed land transactions and fence construction, therefore, there is no potential to affect minority and low-income populations or children in the area. Minor economic impacts on two ranching households may result.

4.0 CONCLUSION

The Proposed Action would allow FLETC to control land within expanded safety zones of firing ranges, and to thereby expand its training capabilities safely. On the basis of the findings of the EA, no significant impact is anticipated from the proposed project on human health or the natural environment. A Finding of No Significant Impact (FONSI) is warranted and an Environmental Impact Statement (EIS) is not required for this action.

_____ _____

George R. Havens Date
Assistant Director
Office of Artesia Operations
Federal Law Enforcement Training Center

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1.0 Introduction

The Department of the Treasury's Federal Law Enforcement Training Center (FLETC) currently provides training to law enforcement personnel at its main campus in Glynco, Georgia, and at a smaller facility in Artesia, New Mexico. The Office of Artesia Operations (OAO) consists of a main campus located within the City of Artesia, and the Special Training Complex, located 3 miles west of the main campus. The Special Training Complex is used for training law enforcement personnel in firearms and driving. The regional location of the project is shown on **Figure 1.0-1**.

FLETC is proposing to acquire 1,280 acres through a federal land transfer from the Bureau of Land Management (BLM), Carlsbad Field Office (CFO) in order to increase its land holding for the Special Training Complex. The proposal also includes a land exchange between the New Mexico Commissioner of Public Lands, State Land Office (SLO) and the BLM in order to consolidate lands for the proposed federal land transfer. With the additional land, FLETC would expand its existing firearms training program.

1.1 Purpose and Need for the Proposed Action

The project area, shown in **Figure 1.1-1** and **Figure 1.1-2**, is 2,960 acres and includes all the lands currently held by FLETC and all lands involved in the land exchange and land transfer. FLETC owns 1,040 acres at the Special Training Complex. FLETC also uses 240 acres of New Mexico state-owned land in Township 16 South, Range 25 East, Sections 33 and 34 (T16S, R25E, and Sections 33 and 34) that is leased to FLETC for use as an ammunition safety zone. On the south side of the complex, 240 acres of BLM land has a right-of-way (ROW) issued to FLETC (in , T175, R25E, Section 3). These areas are part of the subject lands of the proposed land transaction.

Firearms training provided at the Special Training Complex is currently limited to pistols, handguns, and ammunition types that have a firing distance that is contained within FLETC's current land holding. The safety zones extend 2,160 meters (7,000 feet) downrange of the firing ranges. FLETC projects an increase in the volume of firearms training, and also proposes to expand training capabilities to include use of rifles and ammunitions with firing distances up to 3,100 meters (10,170 feet) downrange of the firing ranges. Both the existing safety zones and proposed safety zones are shown on Figure 1.1-1.

Some of the land within proposed safety zones is outside of the area owned or leased to FLETC. Therefore, FLETC is in need of additional land to contain expanded safety zones for its firearms training ranges. The need to acquire land was identified as a long range requirement in an environmental assessment (EA) prepared when the complex was first established in 1990, although the current proposal was not identified at that time.

1.2 Description of the Proposed Project

1.2.1 Project Location

The subject lands are located in southeastern New Mexico in Eddy County, on the north side of the City of Artesia. The project involves 2,960 acres of land, of which 2,320 contiguous acres are located at and adjacent to the Special Training Complex just north of the Artesia Municipal Airport, and 640 acres are located about nine miles to the west.

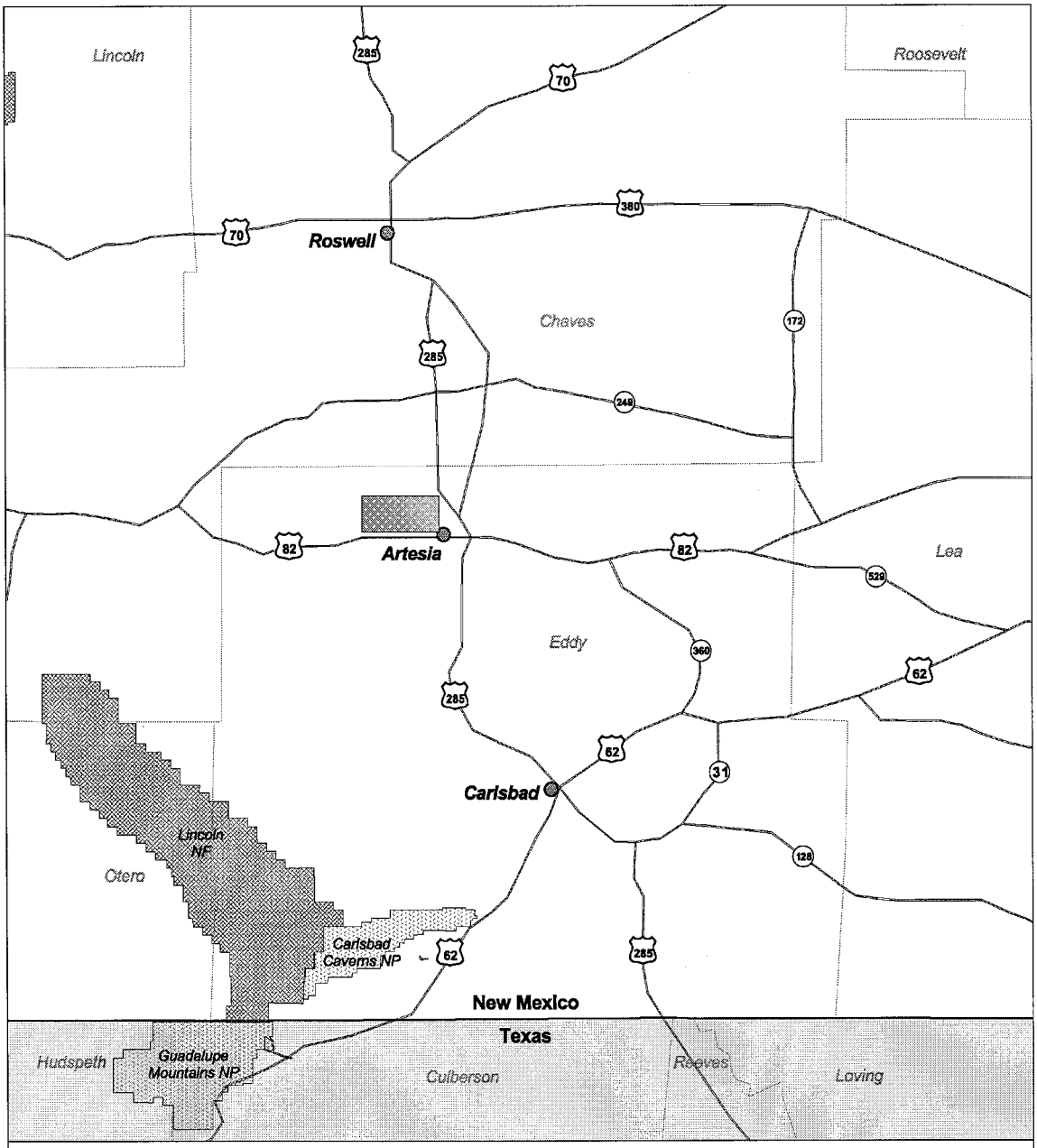


Figure 1.0-1: Regional Location Map of Proposed Project Artesia, New Mexico

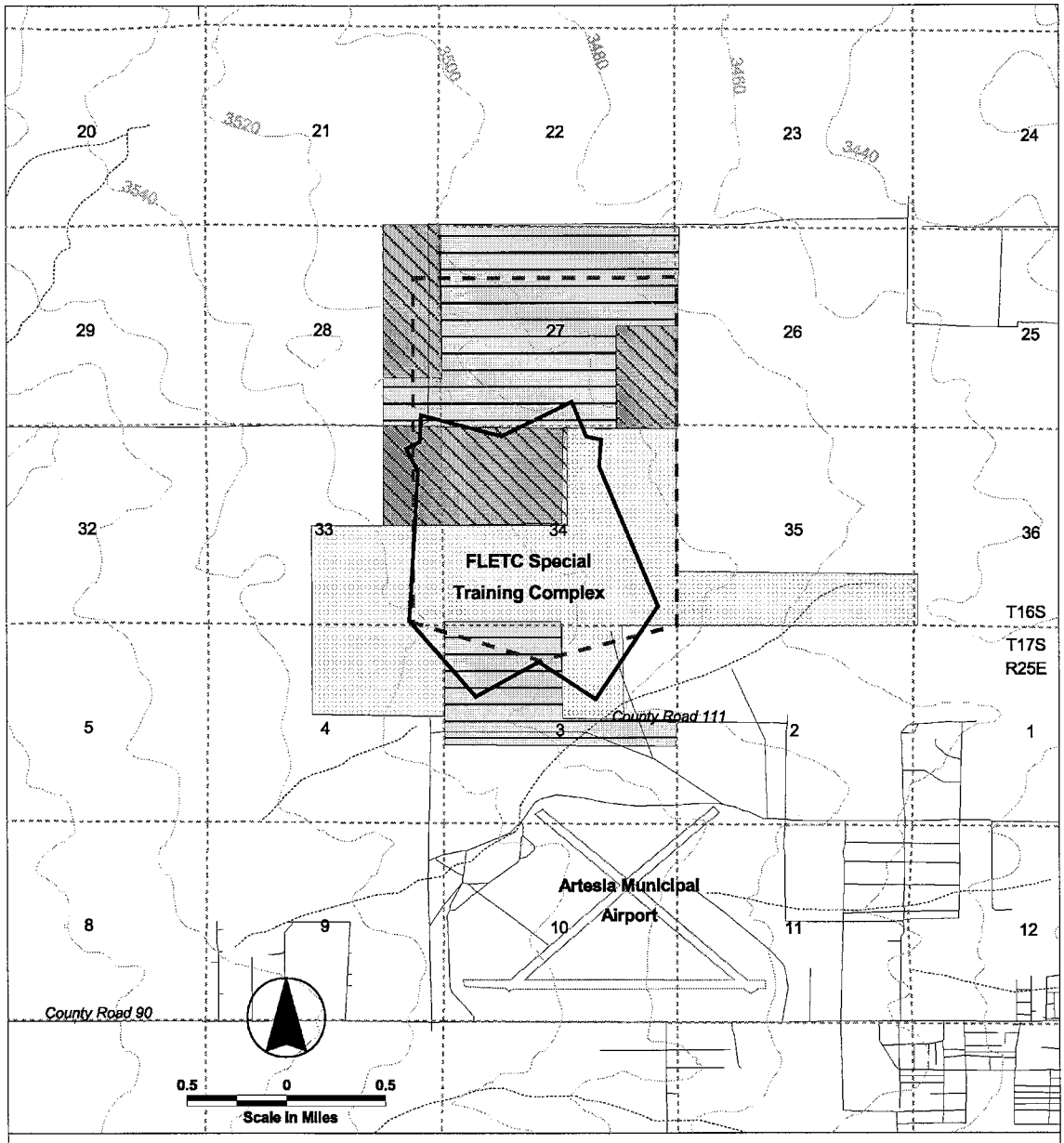


Figure 1.1-1: Location of FLETC Special Training Complex and Proposed Acquisition Lands

SOURCE: COE, Albuquerque District

1

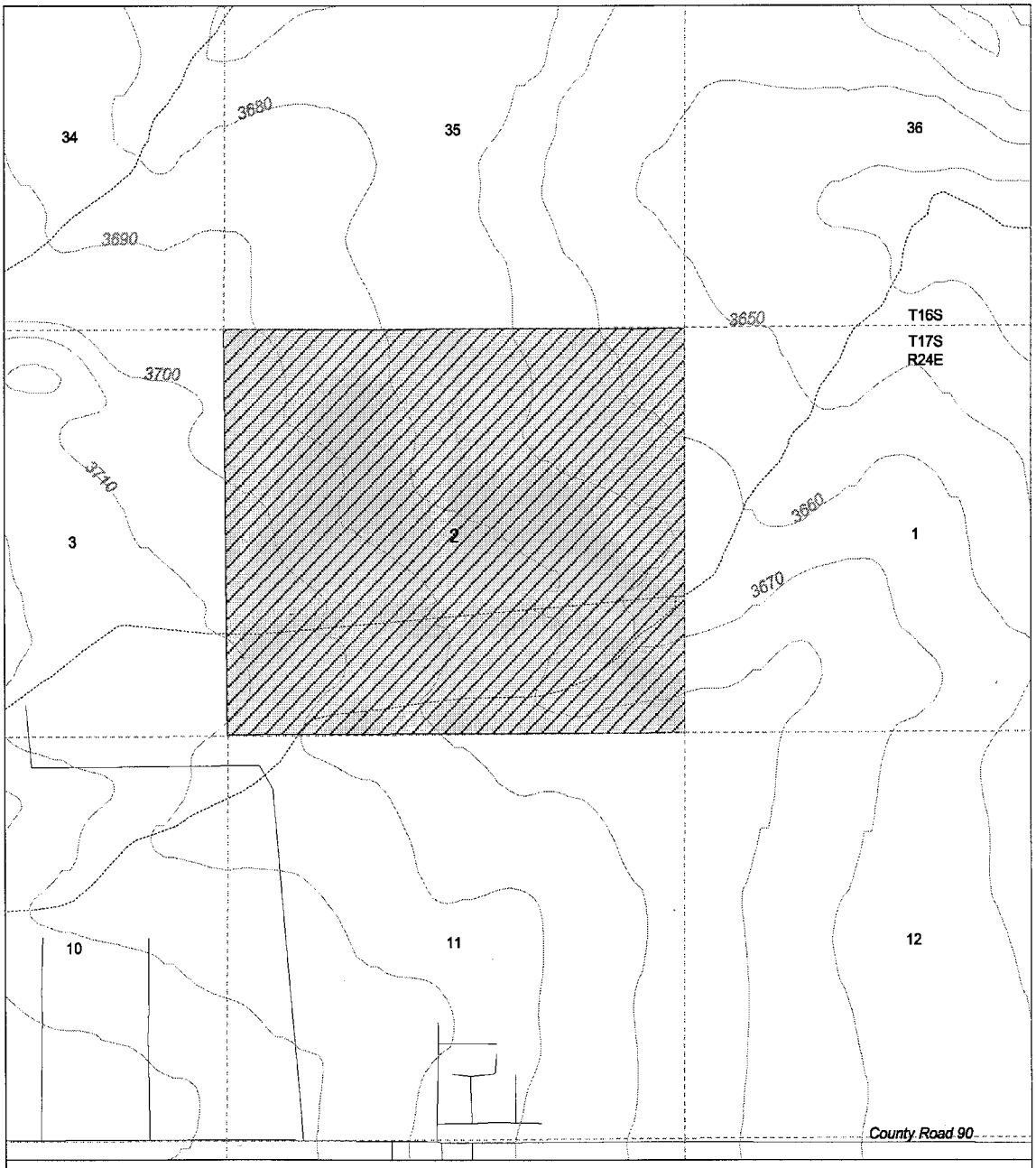


Figure 1.1-2: Location of BLM Lands Selected for Exchange to the State of New Mexico

SOURCE: COE, Albuquerque District

1.2.2 Project Description

The project involves exchange of land of equal value between the SLO and BLM, and subsequently, transfer of 1,280 acres from BLM to FLETC. The exchange would occur under the authority of the Federal Land Policy and Management Act (FLPMA) of 1976, as amended by the Federal Land Exchange Facilitation Act (FLEFA) of 1988. The exchange involves 440 acres of state land (the "offered" land) and up to 640 acres of BLM land (the "selected" land). The ultimate goal of the exchange is to facilitate a transfer of public land and mineral estate to FLETC. The exchange is being considered to accomplish that goal (BLM 2001a).

The land acquired by FLETC would be used as an ammunition safety zone. All exchanges and transfer would also include surface and subsurface mineral estates to the receiving entity. FLETC would provide signage and install about 7.5 miles of perimeter fencing around the acquired land and some areas already within its control.

The federal-to-federal land transfer would also occur under the authority of FLPMA. The proposed land transactions conform with the CFO Resource Management Plan (RMP). The subject lands are within an area identified for disposal. The offered state lands and selected BLM exchange lands are not within an area that is managed to protect special resource values.

1.3 REGULATORY COMPLIANCE

This EA is being prepared in compliance with the National Environmental Policy Act (NEPA) and implementing regulations including the BLM's NEPA Handbook (H-1790-1). This document will be sent to federal, state, and local agencies in accordance with the Interagency and Intergovernmental Coordination for Environmental Planning process. This review process is conducted to comply with the Intergovernmental Coordination Act of 1968 and Executive Order (EO) 12372, which requires federal agencies to obtain and consider state and local views in implementing a proposal. A list of the agencies participating in this process and the distribution list for this EA are provided in Appendix A.

In addition to NEPA and those laws listed above, numerous federal environmental statutes, regulations, and EOs may apply to the Proposed Action. Adherence to these federal requirements, as well as state and local regulations, is part of this EA. The following is a list of these regulatory guidelines:

- EO 11514, Protection and Enhancement of Environment Quality
- EO 11988, Floodplain Management
- EO 11990, Protection of Wetlands
- EO 12196, Occupational Safety and Health of Federal Employees
- EO 12372, Intergovernmental Review of Federal programs
- EO 12898, Environmental Justice
- EO 13045, Protection of Children
- EO 13084, Consultation with Indian Tribal Governments
- EO 13112, Invasive Species
- American Indian Religious Freedom Act of 1978
- Archaeological Resources Protection Act
- Clean Air Act
- Clean Water Act
- Endangered Species Act

- Farmland Protection Policy Act
- Fish and Wildlife Coordination Act, as amended
- National Historic Preservation Act
- New Mexico Air and Water Quality Standards
- Occupational Safety and Health Act
- Resource Conservation and Recovery Act
- Solid Waste Disposal Act
- Watershed Protection and Flood Protection Act

1.4 ORGANIZATION OF DOCUMENT

This EA is arranged in six major chapters.

- Chapter 1 provides the purpose and need of the Proposed Action.
- Chapter 2 provides a description of the proposed alternatives, and summary of impacts.
- Chapter 3 describes the existing conditions of the affected environment of the subject lands and/or associated region of potential impact. This section addresses eleven specific resource categories.
- Chapter 4 provides the analysis of potential impacts to the resources and community characteristics as a result of the implementation of the Proposed Action and the No Action alternatives.
- Chapter 5 provides the references cited.
- Chapter 6 provides a list of persons contacted during preparation of the EA.
- Chapter 7 provides a list of the preparers of this document.

2.0 Description of the Proposed Alternatives

2.1 PROPOSED ACTION

2.1.1 Land Exchange

The New Mexico Commissioner of Public Lands, acting through the SLO, has entered into an agreement for a land exchange with the BLM. In the agreement, the SLO is offering state-owned land in exchange for selected public lands of equal fair market value. The offered lands are part of the State Trust Lands held in trust to benefit New Mexico's public schools and other public institutions. It is mandated by law that the state trust lands be used to generate revenues to benefit these institutions. The exchange would provide the State of New Mexico with lands of like value that would enable the SLO to meet its mandate to generate revenues for the trust beneficiaries. The exchange would include both surface and subsurface mineral estates to the receiving entities (BLM 2001a).

The offered state lands comprise five parcels totaling 440 acres. **Table 2.1-1** provides the legal descriptions of these lands. The offered lands are located partially or wholly within proposed expanded safety zones of FLETC's firing ranges (see Figure 1.1-1), and use of these lands would therefore be restricted. The lands within T16S, R25E, Sections 33 and 34 (240 acres) have been leased to FLETC beginning in 1996 until the end of 2001 for use as an ammunition trajectory safety zone. This area has been fenced to prevent public access, and grazing has been suspended since that time. A grazing lease to Chase Farms continues on 200 acres in T16S, R25E Sections 27 and 28 until September 30, 2004. This lease would be honored for the duration of the lease period, after which it would not be renewed. There are two 50-foot wide natural gas pipeline ROWs (RW-19329 and RW-19320) issued in 1977. RW-19320 crosses Sections 28 and 34 and RW-19329 crosses Section 28. The ROWs are perpetual with right of reversion, and the pipelines are in use. The use of these ROWs would continue after the land transactions.

Table 2.1-1. Legal Description of Subject Lands in Proposed Land Exchange and Land Transfer for the FLETC, Artesia, New Mexico

Current Owner	*Location*		*Disposition*
State Land	T16S, R25E,	S27, E2SE (80 acres)	Exchange w/ BLM; BLM to transfer to FLETC
		S28, E2NE (80 acres)	Exchange w/ BLM; BLM to transfer to FLETC
		S28, NESE (40 acres)	Exchange w/ BLM; BLM to transfer to FLETC
		S33, E2NE (80 acres)	Exchange w/ BLM; BLM to transfer to FLETC
		S34, NW (160 acres)	Exchange w/ BLM; BLM to transfer to FLETC
BLM Land	T16S, R25E,	S27, N2 (320 acres)	BLM land to transfer to FLETC
		S27, SW (160 acres)	BLM land to transfer to FLETC
		S27, W2SE (80 acres)	BLM land to transfer to FLETC
	T16S, R25E,	S28, SESE (40 acres)	BLM land to transfer to FLETC
	T17S, R24E,	S2, (640 acres, portion)	BLM selected land exchanged to State of New Mexico
	T17S, R25E,	S3, NW (160 acres)	ROW land to transfer to FLETC
		S3, N2N2S2 (80 acres)	ROW land to transfer to FLETC

Current Owner	*Location*		*Disposition*
FLETC Land	T17S, R25E,	S3, W2NE (80 acres)	FLETC (Dept of Treasury) land
		S4, NE (160 acres)	FLETC (Dept of Treasury) land
	T16S, R25E,	S33, SE (160 acres)	FLETC (Dept of Treasury) land
		S34, S2 (320 acres)	FLETC (Dept of Treasury) land
		S34, NE (160 acres)	FLETC (Dept of Treasury) land
		S35, S2S2 (160 acres)	FLETC (Dept of Treasury) land

Source: USACE 2001.

In exchange for the offered lands, the State of New Mexico would receive up to 640 acres of BLM land in T17S, R24E, Section 2. The selected BLM lands are shown in Figure 1.1-2. Either all or a portion of this section would be exchanged, up to equivalent fair market value of the offered lands. Section 2 is within the Dry Chaparral grazing allotment shown in **Figure 2.1-1**. BLM would provide a two-year notice to terminate the lease. An ongoing project to install a new grazing fence in Section 2 would be implemented as planned. The State of New Mexico intends to continue grazing uses on this land under a competitive lease process (Britt 2001).

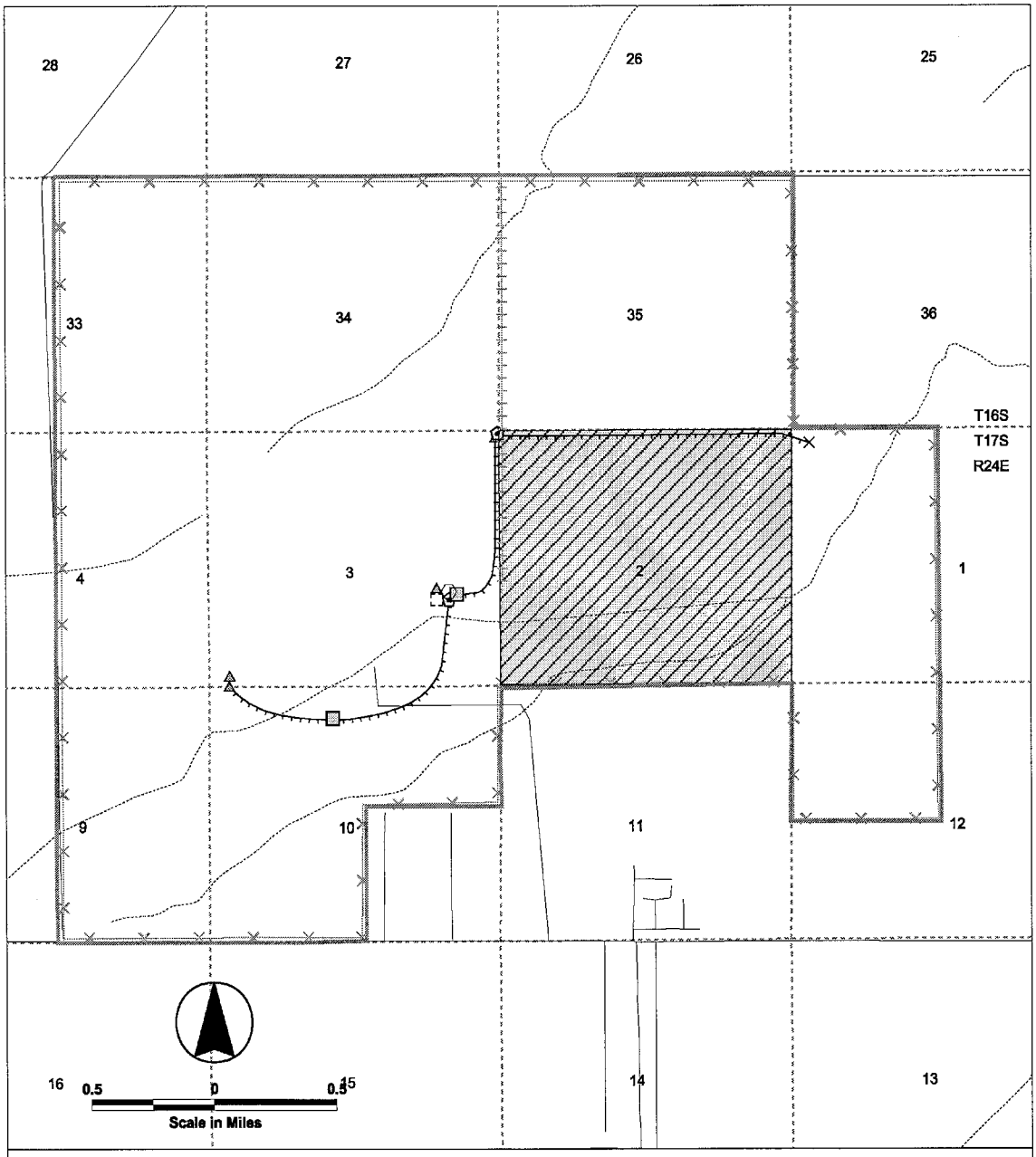
2.1.2 Land Transfer

Upon completion of the land exchange, BLM would transfer 1,280 acres of land (see Figure 1.1-1) and the mineral estate to FLETC. As part of the federal land exchange process, FLETC would make an application for withdrawal of the 1,280 acres from public access and use under the public land laws, and for permanent transfer of jurisdiction (Hougland 2001). These lands are all contained within the Brangus grazing allotment shown in **Figure 2.1-2**. FLETC would use the newly acquired land to support its law enforcement training program. With control of land in Sections 27 and 28, FLETC proposes to expand its ammunition safety zone to allow training with rifles, using munitions with longer firing distances. Also, FLETC anticipates an overall increase in firearms training and the volume of munitions expended. After expiration of the existing grazing lease (on 800 acres) in Section 27 and 28, there would be no further grazing on the transferred land. FLETC would purchase existing improvements or provide equivalent facilities to the allotment permit holder. FLETC intends to issue an easement to allow continued use of an existing roadway and water pipeline along the north edge of Section 27 to the allotment permit holder.

FLETC would not issue new leases for grazing or mineral entry. Existing mineral leases would be honored by FLETC and managed by BLM. Applications to perform exploratory drilling or to extract mineral resources would be coordinated with FLETC. Existing ROWs for an underground natural gas pipeline to Agave Energy Company in Sections 28 and 34 (see Figure 1.1 1) would continue under FLETC. The pipeline owner would be required to coordinate with FLETC prior to conducting any future downrange fieldwork or maintenance.

2.1.3 Physical Improvements

FLETC proposes to install up to 7.5 miles of perimeter fencing around the lands acquired in this transfer, and their existing land with Section 35 (160 acres). (Thereafter, this land would not be accessible for grazing.) Other areas along the southern boundary may also have new fence installed. The



SOURCE: COE, Albuquerque District, BLM CFO **Figure 2.1-1: Dry Chapparel Range Allotment**

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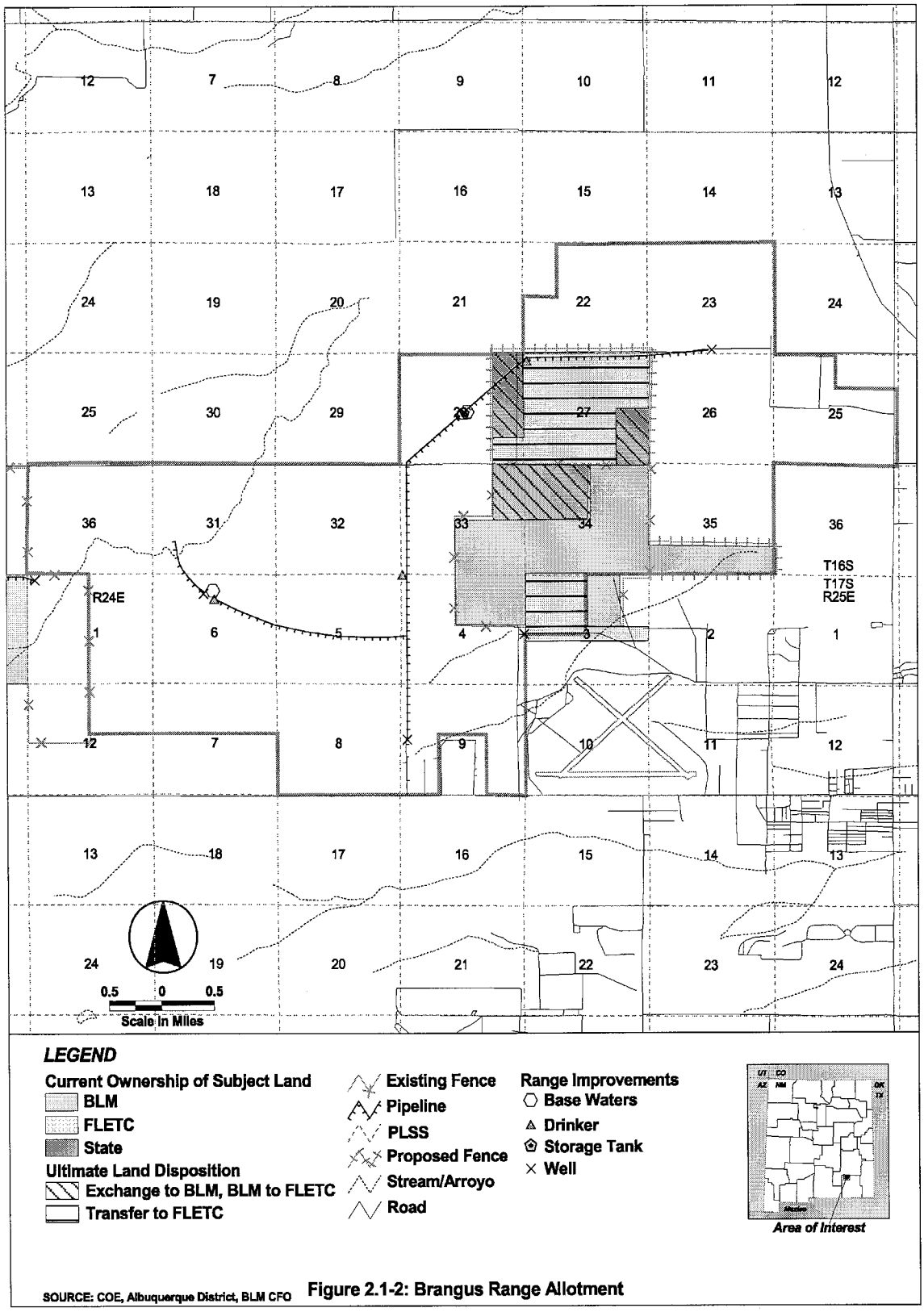

SOURCE: COE, Albuquerque District, BLM CFO

Figure 2.1-2: Brangus Range Allotment

new fence would be a 5-foot high, five-strand barbwire fence (smooth bottom strand) with metal T-posts (6 feet, 6 inches in height), at 16-foot intervals. The T-posts would be set 18 inches below grade. Metal corner posts with braces and pull posts (spaced every 800 feet) would be set in concrete to a minimum depth of 24 inches below grade. The fence would generally follow the boundary of FLETC's land. The alignment would avoid soaptree yuccas that contain stick nests, which are potential nesting habitat for northern aplomado falcon. Also, a water tub ("drinker") on the pipeline in the northwest corner of Section 27 would be moved or replaced at a location on the pipeline outside the FLETC land in Section 28. The new fence would have signage indicating that the enclosed area is hazardous and closed to public access.

2.2 NO ACTION ALTERNATIVE

Under this alternative, there would be no land exchange or land transfer. Existing leases, ROWs, and uses of the subject lands would remain unchanged.

2.3 CUMULATIVE AND INDIRECT IMPACTS

Cumulative environmental impacts are most likely to arise when a relationship exists between a Proposed Action and other actions expected to occur in the region of influence (ROI) in a similar time period. Projects in close proximity to the Proposed Action could have a greater potential for a relationship that would result in potential cumulative impacts than those more geographically separated. Various agencies (federal, state, or local) or persons can propose and implement these projects.

In the future, there may be additional fluid mineral leasing and development of facilities for oil and natural gas production in the general vicinity of the subject lands. Development would be governed by existing stipulations and densities that apply throughout the CFO. There is no planned urban-type development or expansion of the Artesia Municipal Airport or city of Artesia that would encroach on FLETC from the south or east. Other uses on lands surrounding the FLETC to the east, north and west are not expected to change.

Indirect effects are caused by the action and occur later in time or are further removed in distance and must be reasonably foreseeable. Indirect effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air, water, and other natural systems (40 Code of Federal Regulations [CFR] 1508[b]). No significant indirect effects have been identified in this EA.

2.4 ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD

FLETC considered constructing a new road and water pipeline in Section 22, north of and parallel to the existing road and pipeline used for ranching operations in the Brangus allotment in Section 27. However, there is no funding available for these improvements. The current proposal would provide an easement for the existing road and pipeline to the rancher and is compatible with training operations. The easement would be well outside the safety zones of the firing ranges. Based on this, no other alternatives were selected for detailed analysis.

2.5 SUMMARY OF IMPACTS

Impacts associated with each of the resources evaluated in the EA are summarized in **Table 2.5-1**.

1 **Table 2.5-1. Summary of Impacts**

Resource	*Proposed Action*	*No Action Alternative*
Earth	Minor temporary soil disturbance for fence construction. Minimal impact to soils.	No impact.
Mineral	Withdrawal of 1,040 acres from future mineral leasing. Minimal loss of mineral resource potential in CFO.	Continue to manage mineral resources subject to constraints of existing firing range activities on FLETC lands.
Water	No impact.	No impact.
Air Quality	No impact on attainment status. Minor temporary dust and vehicular emissions during fence construction.	No impact.
Biological	Minimal loss of habitat from fence construction. Fence alignment to avoid soaptree yuccas with stick nest therefore no impact on potential aplomado falcon nesting habitat. Recommend smooth strand wire on bottom strand to allow for movement of game in potential antelope habitat. Decreased grazing on 960 acres would have minor effects, both beneficial and negative on some species.	No impact.
Cultural	No impact expected to two sites potentially eligible to the National Register of Historic Places (NRHP).	No impact.
Aesthetics	No impact on visual resources or noise conditions.	No impact.
Human Health and Safety	Increase in rate of accumulation of lead at firing ranges, but potential health and safety risk considered low due to soil type, climate, and range design.	Continued accumulation of lead in soil at firing ranges, but potential for health and safety risks considered low due to soil type, climate, and range design.
Land Use and Access	Slight reduction in leasable grazing land (800 acres), which represents minimal portion of grazing land in the CFO. Withdrawal of 1,040 acres from future mineral leasing may require amendment to CFO RMP. Land transfer consistent with CFO RMP land disposal guidance. Loss of public access to 800 acres for dispersed activities would have minimal impact due to low recreational and hunting opportunities.	No impact.

Resource	*Proposed Action*	*No Action Alternative*
Hazardous Materials and Waste	Increase in rate of accumulation of bullet debris. Manage wastes in accordance with applicable laws and regulations. No impact expected.	No impact.
Socioeconomics	No impact on local economy or population. Slight increase in costs for one rancher possible, and loss of revenue associated with 12 to 15 head of cattle for a second rancher. Loss of future mineral leasing and production on 1,040 acres is insignificant portion of regional resource.	No impact.
Environmental Justice	No impact to regional or local minority or low-income population or children.	No impact.

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3.0 Existing Environment

Section 3.0 describes the environmental and socioeconomic conditions likely to be affected by the Proposed Action. This section provides information to serve as a baseline from which to identify and evaluate environmental and socioeconomic changes likely to result from implementation of the Proposed Action. Baseline conditions represent current conditions. The foreseeable environmental and socioeconomic effects of the Proposed Action and the No Action alternative are described in Section 4.0.

In compliance with NEPA and Council on Environmental Quality (CEQ) guidelines, the description of existing environment focuses on those resources and conditions potentially subject to impacts. These resources and conditions include: earth, mineral, water, biological and cultural resources, aesthetics, human health and safety, land use and access, solid and hazardous materials and waste, socioeconomics, and environmental justice.

3.1 EARTH RESOURCES

3.1.1 Definition of Resource

This section considers the geology and soils of the proposed project sites. A general description of the geology of the area provides an overview of the area and is the basis for the soil and water resources information. Descriptions of each soil map unit on the sites, including slope, erodibility, permeability, frequency of flooding, limitations on uses applicable to the project, and other soil characteristics that might be affected or might affect implementation of the Proposed Action are discussed.

3.1.2 Existing Conditions

3.1.2.1 Geology

FLETC land and the land that would be transferred to the State of New Mexico are all located within the Western Great Plains Physiographic Province and the Pecos Valley Section. The Pecos Valley Section is underlain by Permian marine sedimentary bedrock including limestone, dolomite, shale, salts, and gypsum overlain by Quaternary alluvium. Dissolution of the salts and limestone rock has produced extensive areas containing solution cavities (NMGS 1996). This part of the Permian Basin, a regional geologic structure, has warped strata containing porous limestone that traps oil and gas that is restricted by the impermeable shale and other rocks above. The porous limestone also contains artesian springs and wells, the source of the town name, Artesia (Chronic 1987).

3.1.2.2 Soils

The soil map units on the FLETC land and the land to be transferred are listed below. None of the soils are classified as prime farmland or hydric soils. All these soil types are moderately alkaline, with pH levels ranging from 7.4 to 8.4. They also commonly support grazing, and none are classified as prime and unique farmland (NRCS 2001a, SCS 1971).

- Pima silt loam, 0 to 1 percent slopes
- Reagan loam, 0 to 3 percent slopes
- Reagan-Upton association, 0 to 9 percent slopes
- Upton gravelly loam, 0 to 9 percent slopes
- Upton-Reagan complex, 0 to 9 percent slopes

The Pima Series consists of deep, well drained soils formed in stream alluvium, generally on alluvial fans and floodplains. It is subject to periodic flooding, but this occurs rarely. It is moderately susceptible to water and wind erosion, with moderately slow permeability. Its limitations for roads and small structures are mainly related to the flood potential (NRCS 2001a, NRCS 1997, SCS 1971).

The Reagan Series consists of very deep, well drained soils that formed in calcareous materials that are generally found on broad flats, filled valleys, and alluvial fans. It is not subject to flooding, has a slight susceptibility to water erosion, and is moderately susceptible to wind erosion. Its permeability is moderately slow due to a denser layer, with calcium carbonate concretions at depths between 7 and 20 inches. Limitations for roads, small structures, and shallow excavations are mainly due to the high clay content in the subsoil causing low strength and the potential for shrink-swell (NRCS 2001a, NRCS 2001b, SCS 1971). The firing ranges are located on Reagan soils, which have a pH ranging from 7.9 to 8.4. The leaching potential of Reagan soils is moderate due to low adsorption. However, lead from bullet debris would precipitate out of solution due to alkalinity levels of the soils (USEPA 2001).

The Upton Series consists of shallow, well drained soils formed in unconsolidated limestone on ridges, foot slopes, and alluvial fans. The surface horizon contains limestone gravel to a depth of about 9 inches. It is not subject to flooding and is moderately permeable. It is moderately susceptible to both water and wind erosion. There is a hard, cemented caliche layer within 20 inches of the surface that poses moderate to severe limitations on use for roads, small structures, and shallow excavations (NRCS 2001a, NRCS 2001c, SCS 1971).

3.2 MINERAL RESOURCES

3.2.1 Definition of Resource

Mineral resources include naturally occurring fluid and non-fluid mineral resources that are found in an area. These may have commercial or economic value or be significant due to their rarity or importance as a source for meeting national demands.

3.2.2 Existing Conditions

New Mexico is a leading producer of fluid minerals and southeastern New Mexico harbors rich reserves of oil, and to a lesser extent, natural gas in the Permian Basin. This large geologic basin produces the oil and natural gas from broad downwraps filled in with thick sedimentary rock. The basin contains 1,112 discovered oil pools and 672 discovered natural gas pools. Production from the basin since 1920 equates to 4 billion barrels of oil and 18 trillion cubic feet of natural gas (NRCS 1998).

Southeastern New Mexico, including the BLM CFO, accounts for over 90 percent of the oil produced and about 30 to 40 percent of the natural gas produced in the State of New Mexico each year. An Environmental Impact Statement (EIS) was completed in 1997 to support the CFO's proposed RMP amendments on oil and gas development. The EIS reported that the CFO had 35,702 federal, state, and fee wells drilled between 1904 and 1991. The CFO has approximately 3,097,000 acres in federal mineral estate with approximately 3,159 leases.

The fluid mineral potential on the subject lands is considered high (BLM 1997). **Table 3.2-1** lists existing oil and gas leases. Two leases (held by the same entity) include 560 acres within Section 27 and are due to expire in the years 2005 and 2008. One lease that includes land in Section 28 (40 acres within the subject lands, 40 acres adjacent, and 560 acres elsewhere within T16S, R25E) has no expiration date and is presumed to be held by production (Young 2001). During recent surveys, no wells were observed on the subject lands, therefore it is inferred that any production is occurring at some other location under the

lease. Two oil and gas leases are identified for T16S, R25E, Section 3, NM-69573 and NM-62167 in the 1990 EA. The ROW issued to FLETC for use of this land was subject to valued existing rights (Chambers Group 1990). A Mineral Report was prepared to determine the mineral potential of the proposed exchange lands between BLM and the State of New Mexico. The report concluded that the area is valuable for oil and gas deposits. However, there are no existing fluid mineral leases on the exchange lands (BLM 2001b).

There are two natural gas pipelines crossing Sections 21, 22, and 27. The Agave Energy Company owns the pipelines and holds ROWs from the State of New Mexico and BLM. The pipelines are buried to a depth of 3 feet. The buried pipeline is not considered incompatible with firing range uses (Vaught 2001). (NM-30518 runs North/South through Sections 21 and 27, NM-30658 runs North/South through Sections 22 and 27.)

Locatable minerals found in the area include gypsum and selenite. Leasable minerals include potash, sulfur, and sodium (salt). Leases for potash and salt are presently found throughout Eddy County. Salable mineral contracts for caliche, quarry stone, and sand and gravel are also found throughout the county. Currently, there are no known active potash, sulfur, or sodium leases, active salable mineral contracts, or locatable mining claims on the subject lands. However, the salable mineral value for caliche, sand, and gravel is high, and the value for locatable minerals is moderate on both the state offered lands and the BLM exchange lands (BLM 2001b).

Table 3.2-1. Current Oil and Gas Leases on the Subject Lands

Serial Number	*Size (acres)*	*Location (Twnshp/Rng/Sec)*	*Expiration Date*	*Management Agency*
NMNM-094833	120	T16S/R25E/27	05/31/2005	BLM
NMNM-101081	600	T16S/R25E/27	08/31/2008	BLM
NMNM-010266	640	T16S/R25E/28	Note (1)	BLM
NMNM-69573	No data	T16S/R25E/3	No data	BLM
NMNM-62167	No data	T16S/R25E/3	No data	BLM

Sources: Chambers Group 1990, BLM 1920, 1987a,b.
Note: (1) Lease presumed to be held by production.

3.3 WATER RESOURCES

3.3.1 Definition of Resource

Water resources analyzed include surface water and groundwater quantity and quality. Surface water resources comprise lakes, rivers, and streams and are important for a variety of reasons, including economic, ecological, recreational, and human health. Groundwater comprises the subsurface hydrologic resources of the physical environment and is an essential resource. Groundwater properties are often described in terms of depth to aquifer or water table, water quality, and surrounding geologic composition.

Other issues relevant to water resources include the downstream water and watershed areas affected by existing and potential runoff, and hazards associated with 100-year floodplains. Floodplains are areas of low-level ground present on one or both sides of a stream channel and are subject to either periodic or infrequent inundation by floodwater.

This section describes the surface and groundwater resources in the vicinity of the subject lands and identifies known water quality problems.

3.3.2 Existing Conditions

The Artesia area is located within the Pecos River valley, in the southern part of the Upper Pecos-Long Arroyo hydrologic unit cataloged by the U.S. Geological Survey (USGS) as Hydrologic Unit Code 1306007 (USGS 2001). It is underlain by the Roswell groundwater basin with a confined (artesian) aquifer consisting of porous rocks that is fed mainly by infiltration in the Sacramento Mountains to the west (Chronic 1987). The aquifer is from 260 to 240 feet thick, discharges to the Pecos River, and is the source of water for the City of Artesia (NRCS 1998).

3.3.2.1 Surface Water and Floodplains

Surface water flows are carried by intermittent streams and arroyos, usually only during brief summer thunderstorms. Eagle Creek to the south is the major waterway in the vicinity, and it drains into the Pecos River to the east. According to the U.S. Army Corps of Engineers (USACE), Albuquerque District, there is an intermittent stream classified as waters of the U.S. in the eastern part of the current FLETC land in the southeastern part of Township 16 South, Range 25 East, Section 35 (Malunchuk 2001). The same drainageway also flows through the BLM land to the south in Township 17 South, Range 25 East, Section 3, where the land is within the 100-year floodplain. The relatively flat slopes and perimeter berms at the firing ranges minimize surface flows from the ranges to the drainage. No wetlands have been identified within the boundaries of the land to be transferred (USACE 2000). Eagle Creek is not listed on the New Mexico 303(d) list of impaired surface waters (NMED 2000).

3.3.2.2 Groundwater

The depth to groundwater on the subject lands is between 200 and 300 feet. The salinity of the groundwater is considered low. Well data from the New Mexico Office of the State Engineers shows groundwater in the vicinity of the project area to be potable, with chloride levels of 27 ppm and a conductivity of 775.

Information from New Mexico Environment Department (NMED) indicates that the Pecos River Basin contains numerous sites where leaking underground storage sites were reported, as of November 1999. Most of these reported groundwater contamination cases are concentrated around the major industrialized areas including Artesia. These contamination sites are typically associated with service stations, liquid petroleum storage and distribution centers, pipelines, and oil extraction operations. There are no known sources of groundwater contamination on the lands to be transferred (NMED 2001). Potential for lead to enter into groundwater from firing range activities is considered low based on the alkalinity of the soils present on the firing range and low precipitation. Also, a relatively shallow, dense, soil layer would inhibit movement of water into groundwater.

3.4 AIR QUALITY

3.4.1 Definition of Resource

Air resources describe the existing concentrations of various pollutants, and the climatic and meteorological conditions that influence the quality of the air. Precipitation, wind direction, wind speed, and atmospheric stability are factors that determine the extent of pollutant dispersion.

3.4.2 Existing Conditions

3.4.2.1 Climate

The climate in the vicinity of FLETC is arid to semiarid with approximately a 195-day growing season. The average daily temperature in January is 40 degrees Fahrenheit (° F) and in July is 75° F. Precipitation averages approximately 14 inches, with most falling during spring and summer as high-intensity, short-duration localized thunderstorms. Winds are generally from the southeast in the summer and southwesterly in later winter and early spring. Average wind speeds are 10 miles per hour (mph) in the fall and 16 mph in the spring, with peak velocities of 50 mph (Chambers Group 1990).

3.4.2.2 Air Quality Standards

The Clean Air Act (CAA) delegates authority to state and local agencies to enforce the National Ambient Air Quality Standards (NAAQS) and to establish air quality standards and regulations. The adopted state standards must be at least as restrictive as the federal requirements. **Table 3.4-1** shows the federal and state air quality standards. Eddy County is considered to be in attainment of state and federal air quality standards (AIRData 2001).

The CAA, Section 169A, established the Prevention of Significant Deterioration (PSD) regulations to protect the air quality in regions that already meet the NAAQS. The primary purpose of the PSD regulations is to ensure that impacts from new or modified sources, in combination with other sources, do not exceed the maximum allowable incremental increases for those pollutants in attainment. There are no PSD Class I areas located within Eddy County.

3.5 BIOLOGICAL RESOURCES

3.5.1 Definition of Resource

Biological resources include native or naturalized plants and animals, and the habitats in which they occur. This section describes plant and animal species or vegetation types that typify the biological resources in the area. Sensitive species are plants and animals listed as threatened, endangered, or are of concern to the U.S. Fish and Wildlife Service (USFWS), the New Mexico Department of Game and Fish (NMDGF) (NMDGF 1999), and the New Mexico Rare Plant Technical Council (NMRPTC) (NMRPTC 1999), which designates state-protected plant species.

This section addresses species with the potential to occur in the study area in six categories of protection status. These include: 1) Federal Listed Threatened and Endangered Species, 2) Federal Proposed Species, 3) Candidate Species, 4) State Listed Threatened and Endangered Species, 5) Species of Concern, and 6) State Rare and Sensitive Species. These categories are defined below.

Federal Listed Threatened and Endangered Species—The Endangered Species Act of 1973 provides protection to species listed under this category. Endangered species are those species that are in danger of extinction throughout all or a significant portion of [their] range. Threatened species are those that are likely to become endangered species in the foreseeable future.

Federal Proposed Species—Any species of fish, wildlife, or plant that is proposed in the *Federal Register* to be listed under Section 4 of the Endangered Species Act.

Table 3.4-1. New Mexico and Federal Ambient Air Quality Standards (AAQS)

Air Pollutant	*Averaging Time*	*New Mexico AAQS*	*Federal (NAAQS)*	
			Primary (1)	*Secondary* (2)
Carbon monoxide (CO)	1-hour 8-hour	13.1 ppm 8.7 ppm	35 ppm 9 ppm	-- --
Nitrogen dioxide (NO_2)	24-hour AAM	0.10 ppm 0.05 ppm	-- 0.053 ppm	-- 0.053 ppm
Sulfur dioxide (SO_2)	3-hour 24-hour AAM	-- 0.10 ppm 0.02 ppm	-- 0.14 ppm 0.03 ppm	0.50 ppm -- --
Hydrogen Sulfide (3) (H_2S)	--	0.030 ppm	--	--
Total Suspended Particulates (TSP)	24-hour 7-day average 30-day average AGM	150 µg/m^3 110 µg/m^3 90 µg/m^3 60 µg/m^3	-- --	-- --
$PM_{2.5}$ (5)	24-hour AAM	-- --	65 µg/m^3 15 µg/m^3	150 µg/m^3 50 µg/m^3
PM_{10}	24-hour AAM	-- --	150 µg/m^3 50 µg/m^3	150 µg/m^3 50 µg/m^3
Ozone (O_3)	1-hour (4) 8-hour (5)	-- --	0.12 ppm 0.08 ppm	0.12 ppm 0.08 ppm
Lead (Pb)	Quarterly Average	--	1.5 µg/m^3	1.5 µg/m^3

Notes: (1) Primary standards set limits to protect public health, including the health of "sensitive" populations such as asthmatics, children, and the elderly.
(2) Secondary standards set limits to protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation, and buildings.
(3) For within corporate limits of municipalities within the Pecos-Permian Basin Intrastate Air Quality Control Region (1/2-hour average).
(4) The ozone 1-hour standard applies only to designated nonattainment areas.
(5) New NAAQS for $PM_{2.5}$ and 8-hour O_3 concentrations were established August 4, 1997; implementing guidelines have not been adopted.
AAM = Annual Arithmetic Mean
AGM = Annual Geometric Mean
ppm = parts per million
µg/m^3 = micrograms per cubic meter

Candidate Species—These are species that the USFWS is considering for listing as federally threatened or endangered but for which a proposed rule has not yet been developed. In this sense, candidates do not benefit from legal protection under the Endangered Species Act. In some instances, candidate species may be emergency listed if the USFWS determines that the species population is at risk due to a potential or imminent impact. The USFWS encourages federal agencies to consider candidate species in their planning process as they may be listed in the future.

State Listed Threatened and Endangered Species—A list of state threatened and endangered species is maintained by the state of New Mexico, and these species are protected from harassment, taking, and possession. Similar definitions of threatened and endangered in the federal category apply to the state category. State and federal lists often include the same species.

Species of Concern—Species of concern to the USFWS are species for, which there is insufficient information to determine if they should be listed. It is an informal term and these species receive no legal protection under the Endangered Species Act.

State Rare and Sensitive Species—New Mexico rare species include species with narrow ranges, or occurrences that are more widespread but are numerically rare.

3.5.2 Existing Conditions

Reconnaissance level surveys were conducted for biological resources on approximately 2,960 acres of FLETC and BLM land from October 1 through October 5, 2001. The purpose of these surveys was to determine the general biological characteristics of the project area such as major plant community types, common wildlife species, the occurrence of sensitive species and/or their potential habitat. Additional information on the biological resources in the study area was obtained from the local BLM biologists, state and other federal agency personnel, and the relevant literature.

3.5.2.1 Terrestrial Vegetation

The project area has generally flat terrain and is desert grasslands with scattered shrubs. The general area has been in drought for the past two years and the above ground vegetation of most ground cover plant species was dead. The common species of grass observed were tobosa (*Hilaria mutica*) and burro grass (*Schleropogon brevifolius*). Other grass species known to occur in this area are black grama (*Bouteloua eriopoda*), blue grama (*B. gracilis*), ear muhly (*Muhlenbergia arenacea*), and three-awn (*Aristida* spp.) (BLM 2000). Widely scattered Soaptree yucca (*Yucca elata*) and creosotebush (*Larrea tridentata*) were the most common shrubs. Other even more widely scattered shrubs and cactus observed included broom snakeweed (*Gutierrezia sarothrae*), prickly pear (*Opuntia* sp.), cholla (*Opuntia* sp.), and horse crippler cactus (*Echinocereus texensis*). Honey mesquite (*Prosopis glandulosa*) and little-leaf sumac (*Rhus microphylla*) were even less common. On the low rocky hills in Section 27 (**Figure 3.5-1**), creosotebush was more common and grass and soaptree yucca less common.

3.5.2.2 Invasive Plants

Disturbed ground resulting from previous FLETC construction and ongoing activities is common in Sections 3 and 4. This includes disturbed ground north, west, and south of the main built-up area in Section 3 and in Section 4, which contained a driver training tract, large man-made earthen mounds, and wooden towers. Construction activities were observed in both sections during the biological surveys.

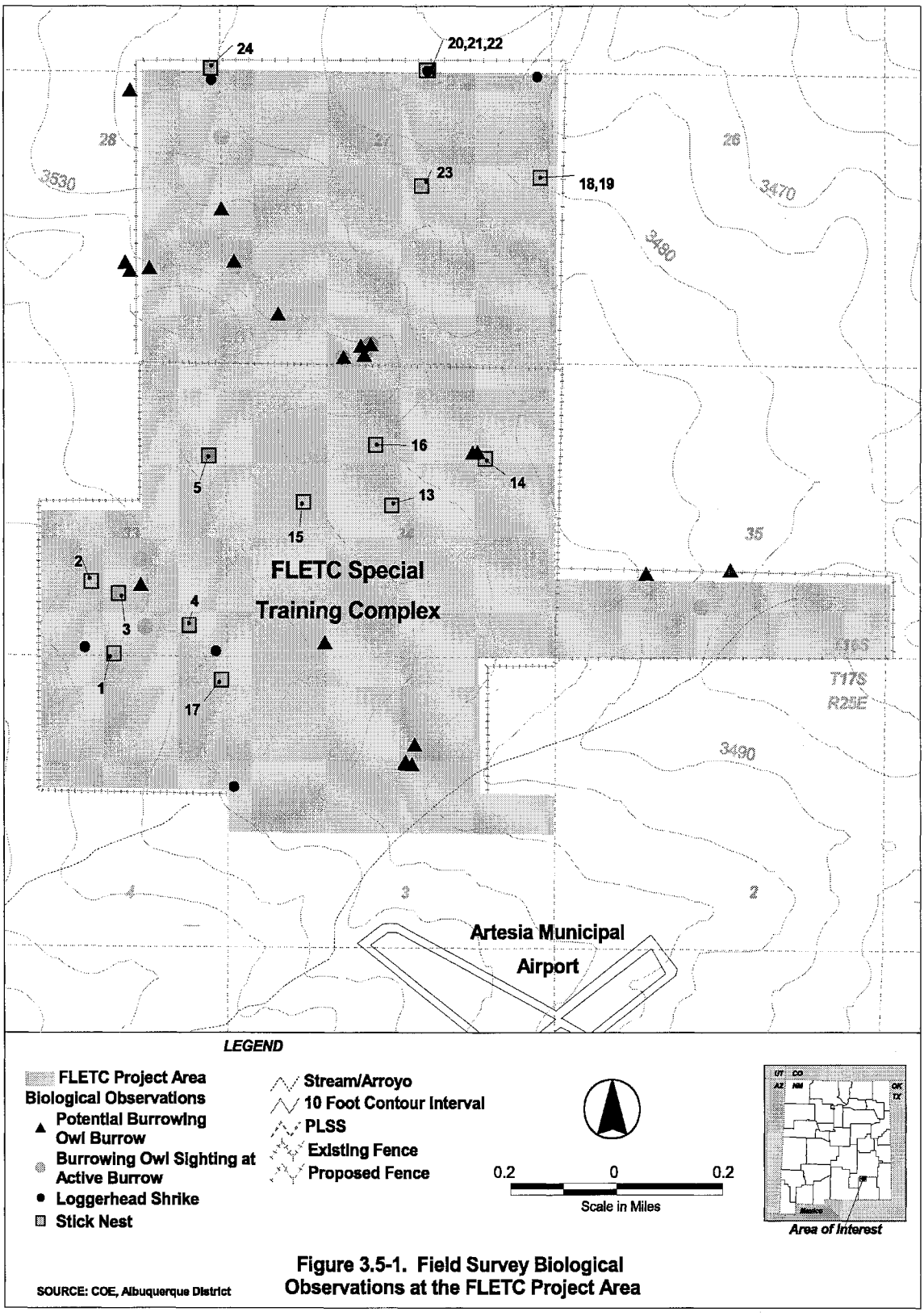

Figure 3.5-1. Field Survey Biological Observations at the FLETC Project Area

SOURCE: COE, Albuquerque District

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There are many areas of essentially bare ground and other areas dominated by dense growths of Russian thistle (*Salsola tragus*). Other large areas of disturbed ground is dominated by dense growth of broom snakeweed. Other invasive plant species observed in the disturbed ground include various species of thistle (*Cirsium* and *Centaurea* sp.), wild gourd (*Cucurbita* sp.), globemallow (*Sphaeralcea* sp.), salt-cedar (*Tamarix chiensis*) in one location, and others. Elsewhere in the project area, an occasional Russian thistle was observed.

3.5.2.3 Wetlands

No wetlands or other aquatic habitat were observed. All stock tanks were dry and many had apparently been dry for a long time. One metal livestock trough contained water in Section 27 and there were aquatic plants and invertebrates in this trough.

3.5.2.4 Wildlife

Reptiles observed include whiptail lizards (*Cnemidophorus* spp.), one western box turtle (*Terrapene ornata*), and unidentified snakeskins. Studies of desert grasslands elsewhere in southern New Mexico indicate that as many as 35 species of reptiles could occur in the project area. Common reptiles would be whiptails, southern prairie lizard (*Sceloporus undulayus*), side-blotched lizard (*Uta stansburiana*), gopher snake (*Pituophis catenifer*), and western diamondback rattlesnake (*Crotalus atrox*) (U.S. Army 1999a).

A total of 15 species of birds comprising 164 individuals were recorded (**Table 3.5-1**). The most species and individuals were detected on T16S, R24E, Section 2, followed by T17S, R25E, Sections 27 and 35. The burrowing owl (*Athene cunicularia*) and American kestrel (*Falco sparverius*) were the most common birds-of-prey. These small raptors were likely feeding on the fairly common grasshoppers in the area. Two red-tailed hawks (*Buteo jamaicensis*) and several turkey vultures (*Cathartes aura*) were the only other birds-of-prey observed.

Twenty-seven stick nests were observed (**Table 3.5-2**, Figure 3.5-1, and **Figure 3.5-2**), including four in a dead cottonwood tree (*Populus* sp.) in the center of Section 34. Two of these nests were falling apart and the nests in this tree are all included under Stick Nest #13 (see Table 3.5-2). Of the 24 stick nests on Table 3.5-2, 22 were in soaptree yuccas. Many of the stick nests are fairly small and may have been constructed by the common raven (*Corvus corax*), or, more likely, the Chihuahuan raven (*C. cryptoleucus*). The larger stick nests were most likely constructed by the red-tailed hawk, great horned owl (*Bubo virginianus*), or some other large bird-of-prey.

The vesper sparrow (*Pooecetes graminius*) was the most abundant bird species detected, and they are likely migrant or wintering birds because this species nests to the north of southern New Mexico (Sibley 2000). Other common birds observed were the scaled quail (*Callipepla squamata*), loggerhead shrike (*Lanius ludovicinus*), horned lark (*Eremophila alpestris*), and meadowlark (*Sturnella* sp.) (Table 3.5-1). Breeding bird studies have not been conducted in the project area, but based on breeding bird surveys in desert grasslands elsewhere in southern New Mexico, the above species (except the vesper sparrow) and other species in Table 3.5.1 would be expected to nest in the project area. Other species such as the ash-throated flycatcher (*Myiarchus cinerascens*), northern mockingbird (*Mimus polyglottos*), black-throated sparrow (*Amphispiza bilineata*), Scott's oriole (*Icterus parisorum*) and house finch (*Carpodacus cassinii*), may also be fairly common breeding birds in these grasslands (U.S. Army 1999a).

Table 3.5-1. Birds Observed during Biological Surveys on FLETC and BLM Land near Artesia, New Mexico during October 2001

Species		*Date*					
Common Name	***Scientific Name***	***1st***	***2nd (1)***	***3rd***	***4th***	***5th***	***Total***
Turkey vulture	*Cathartes aura*	0	3	4	5	4	16
Red-tailed hawk	*Buteo jamaicensis*	0	1	0	0	1	2
American kestrel	*Falco sparverius*	1	0	1	0	2	4
Scaled quail	*Callipepla squamata*	0	12	0	0	7	19
American coot	*Fulica americana*	0	0	0	1	0	1
Mourning dove	*Zenaida macroura*	1	0	0	0	1	2
Burrowing owl	*Athene cunicularia*	2	0	0	6	0	8
Say's phoebe	*Sayornis saya*	0	3	0	0	0	3
Loggerhead shrike	*Lanius ludovicoanus*	2	5	1	2	2	12
Horned lark	*Eremophila alpestris*	0	6	0	15	0	21
Cactus wren	*Campylorhynchus brunneicapillus*	0	1	0	0	0	1
Rock wren	*Salpinctes obsoletus*	0	0	0	3	3	6
Thrush sp.	*Toxostoma* sp.	0	1	0	0	0	1
Vesper sparrow	*Pooecetes gramineus*	1	15	9	7	2	34
Meadowlark sp.	*Sturnella* sp.	2	12	0	2	0	16
Unidentified		0	0	1	11	6	18
Total		**9**	**59**	**16**	**52**	**28**	**164**

Note: (1) Observations on the second day were all in T16S, R24E, Section 2 (BLM selected exchange lands).

Table 3.5-2. Stick Nests Observed on FLETC and BLM Land during the October 2001 Field Surveys

	Plant		Nest			
Nest #	Species	Height (ft) [a]	Height (ft) [b]	Diameter (in)	Depth (in)	Comments
1	Soaptree yucca	7.5	6.5	20	7	Fairly small nest—may be raven nest.
2	Soaptree yucca	8	7	20	10	
3	Soaptree yucca	6.5	6	-	-	Old nest falling apart.
4	Soaptree yucca	8	7.5	18	7	
5	Soaptree yucca	9	9	30	20	Large nest. Red-tailed hawk size.
6 [c]	Soaptree yucca	18	10.5	30	30	Deepest and highest nest seen so far.
7 [c]	Soaptree yucca	15	8.5	25	15	
8 [c]	Soaptree yucca	10	7	-	-	Old nest falling apart.
9 [c]	Soaptree yucca	9	7.5	15	15	Small nest built on stick nest. Made from fine hairs that are at base of yucca leaves.
10 [c]	Soaptree yucca	14	12	24	20	Large stick nest. Red-tailed hawk size.
11 [c]	Soaptree yucca	8	7	15	12	
12 [c]	Soaptree yucca	10	5	-	-	Old nest falling apart.
13	Dead cottonwood	40	20 & 28 (intact nests)	36	18	Four nests in this tree. Two falling apart.
14	Soaptree yucca	8	6.5	8	3	
15	Soaptree yucca	6	5	12	4	
16	Soaptree yucca	10	8	14	-	Nest falling apart.
17	Chinese elm	40	30	13	6	Nest in only large tree in area.
18	Soaptree yucca	11	6	20	8	This nest falling apart.
19	Soaptree yucca	11	10	24	12	Nest in good shape and in same yucca as Nest 18.
20	Soaptree yucca	10	6.5	15	8	One of two nests in one yucca.
21	Soaptree yucca	10	8	18	6	Second nest in same yucca.
22	Soaptree yucca	8	6.5	18	8	45 feet from Nests 20 and 21.
23	Soaptree yucca	7.5	6.5	18	6	
24	Soaptree yucca	9	8	18	8	

Notes: (a) Soaptree yucca height is height of leaves, not flowering stalk.
(b) Height of nest measured from the top of the nest.
(c) Stick nests on BLM land.

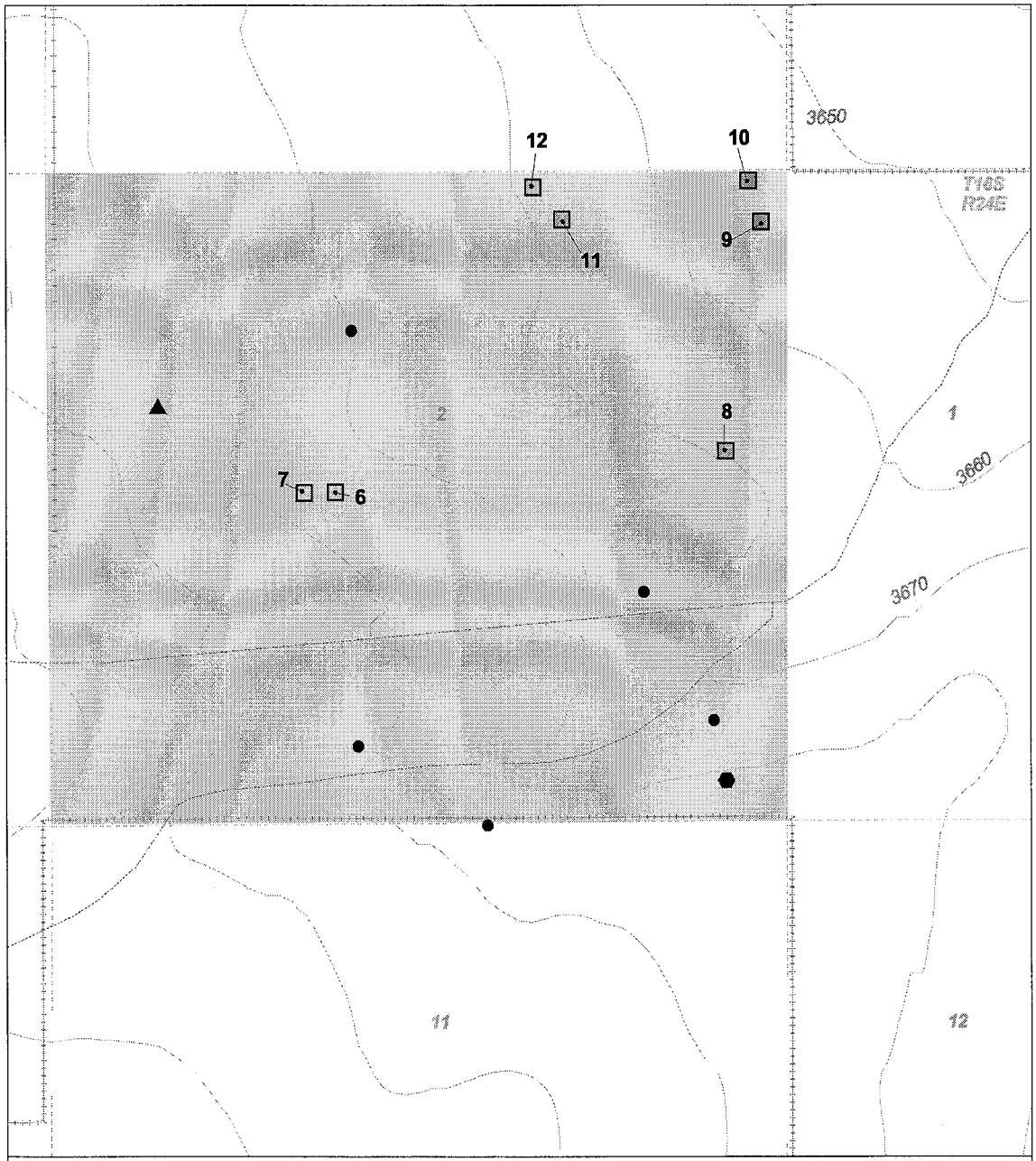

Figure 3.5-2. Field Survey Biological Observations for the BLM Selected Land Area

SOURCE: COE, Albuquerque District

The desert cottontail (*Sylvilagus audubonii*) and black-tailed jackrabbit (*Lepus californicus*) were seen fairly frequently during the surveys. Wild canid scats and large burrows apparently constructed by badger (*Taxidea taxus*) were also common. Burrows of smaller mammals were also observed. Detailed mammal studies have not taken place in the project area, but studies in desert grasslands about 80 miles west of Artesia on Otero Mesa have shown that the mammal fauna in desert grasslands can be diverse. The Otero Mesa study documented up to 18 species of small mammals in desert grassland habitat and species such as the Silky pocket mouse (*Perognathus flavus*), Merriam's kangaroo rat (*Dipodomys merriami*), white-footed mouse (*Peromyscus leucopus*), and deer mouse (*Peromycus maniculatus*) were common and could also be common in the project area (U.S. Army 1999a). No signs of larger mammals such as pronghorn antelope (*Antilocarpra americana*) or mule deer (*Odocoileus hemionus*) were observed in the project area.

3.5.2.5 Sensitive Species

Information on sensitive species that have the potential to occur in the project area was obtained from the USFWS, BLM, and the NMDGF. (See Appendix A for correspondence from the USFWS and NMDGF.) The final list of species considered (**Table 3.5-3**) was determined from contacts with knowledgeable individuals or general species information from existing studies.

Information from the New Mexico Forestry Division indicated that the endangered gypsum wild buckwheat (*Eriogonum gypsophilum*) and Tharp's bluestar (*Amsonia tharpii*) have the potential to occur in the project area (Sivinski 2001).

There are nine federally listed and candidate vertebrate species listed for Eddy County, New Mexico (Nicholopoulos 2001). Seven of the species were eliminated from further consideration because they did not exist in the FLETC project area or the BLM selected lands area because: 1) The black-footed ferret (*Mustela nigripes*) was extirpated from New Mexico. 2) The least tern (*Sterna antillarum*), Pecos bluntnose shiner (*Notropis simus pecosensis*), and Pecos gambusia (*Gambusia nobilis*) are associated with aquatic habitat. 3) The lesser prairie-chicken (*Tympanuchus pallidicinctus*) occurs principally east of the Pecos River. 4) The bald eagle (*Haliaeetus leucocephalus*) and Mexican spotted owl (*Strix occidentalis lucida*) occur in habitats not found in the project area.

The black-tailed prairie dog (*Cynomys ludovicianus*) and northern aplomado falcon (*Falco femoralis septentrionalis*) are federal candidate and endangered species that have the potential to occur in the project area. In addition, the grassland habitat in the project area is considered potential mountain plover (*Charadrius montanus*) habitat by the USFWS (Sherman 2001). The remaining federal species of concern and/or state sensitive species that have the potential to occur in the project area are in Table 3.5-3.

Gypsum wild buckwheat. Gypsum wild buckwheat (*Eriogonum gypsophilum*) is a perennial growing from a woody base and has yellow flowers. It is a federally threatened and a state endangered species. It occurs in Eddy County, New Mexico and is know from three locations north of Carlsbad, New Mexico. It is restricted to sparsely vegetated areas of almost pure gypsum (NMNHP 1999).

Tharp's blue-star. Tharp's blue-star (*Amsona tharpii*) is a perennial growing from a woody base and it has pale-blue or greenish-white flowers. It is a federal species of concern and a state endangered species. It occurs in Eddy County, New Mexico and adjacent Pecos County, Texas, and it is known from three populations in New Mexico. It grows on limestone and gypsum hills in the Chihuahuan desert shrubland community (NMNHP 1999).

Table 3.5-3. Sensitive Species that Are Known to Occur or Have the Potential to Occur on FLETC and BLM Land in Eddy County, New Mexico

Species	*Status* [a]		*Occurrence in Project Area*
	Federal	*State*	
Plants			
Gypsum wild-buckwheat	T	E	Not believed to occur in project area because there is no exposed gypsum strata.
Tharp's blue-star	SC	E	Not believed to occur in project area because there is no exposed gypsum strata.
Reptiles			
Texas horned lizard	SC	_	Not observed during surveys, but has the potential to occur in project area
Birds			
Baird's sparrow	SC	T	Not observed during surveys but still has the potential to occur in the project area during migration or the winter.
Ferruginous hawk	SC	_	Not observed during surveys, but has the potential to occur in the project area during migration or the winter. Low potential to occur during the breeding season.
Loggerhead shrike	SC	_	Frequently observed in project area. Likely breeds and overwinters in project area.
Mountain plover	PT	S	Not observed during surveys. Has not been recorded from area but could occur during migration. Low potential of breeding in area.
Northern aplomado falcon	E	E	No records of nesting in this section of New Mexico. Much of the project area considered marginal potential breeding habitat.
Western burrowing owl	SC	_	Frequently observed in project area. Likely breeds and may overwinter in project area.
Mammals			
Black-tailed prairie dog	C	S	No active prairie dog towns in project area. One potential old town. Prairie dogs could re-colonize area.

Sources: Hays 2001, Nicholopoulos 2001, Sivinski 2001.
Notes: (a) T = threatened, E= endangered, SC = species of concern, C = candidate, PT = proposed threatened, S = state sensitive species.

Texas horned lizard. The Texas horned lizard (*Phrynosoma cornutum*) is a federal species of concern and is not listed by the State of New Mexico. This species has declined throughout its range. Habitat destruction, the introduction of the fire ant (*Solenopsis invicta*), and the use of insecticides are potential reasons for its decline (Burrow et al. 2001). This species uses a variety of habitats including desert

grasslands and shrublands usually with sparse vegetation, and is known to occur in rangelands including areas heavily grazed by livestock (Fair and Henke 1997, Burrow et al. 2001). It is known to be common and widespread in desert grassland and shrubland habitat about 80 miles west of the project area on McGregor Range (U.S. Army 1999a). It was not observed during surveys at the project area, but potential habitat occurs in the survey area and it is likely a resident species of the area.

Baird's sparrow. Baird's sparrow (*Ammodramus bairdii*) is a federal species of concern and a state threatened species. This species was once one of the most abundant nesting species in the northern prairie states and Canada, but has declined in abundance by about 90 percent with cultivation and conversion of much of its mixed-grass prairie nesting habitat (DeSmet and Conrad 1989). Baird's sparrows winter and migrate through New Mexico. It was once relatively numerous and widespread in New Mexico, but in recent years it is very rarely reported (NMDGF 1999). Baird's sparrows were observed during migration and the winter in swales on Otero Mesa with dense tall growths of tobosa grass along with black and blue grama and low shrub density (U.S. Army 1999a). This species was not observed during surveys in the project area and swales with dense growth of grass were not observed. However, tobosa and other grass species were observed in the areas surveyed so this species could migrate through and possibly overwinter in the area.

Ferruginous hawk. The ferruginous hawk (*Buteo regalis*) is a federal species of concern and is not listed by the State of New Mexico. It breeds from the Canadian provinces south to Arizona and Oklahoma. It nests on trees, bushes, large rocks, and hillsides. It is a grassland species, and typically feeds on prairie dogs and ground squirrels (Finch 1992). This hawk's decline in some areas is due to its intolerance to human disturbance and loss of habitat due to cultivation (White and Thurow 1985, Houston and Bechard 1984, Schmultz 1984). Observations in desert grasslands on Otero Mesa, about 80 miles west of the project area indicate that this species is a migrating and wintering species but not a nesting species (U.S. Army 1999a). Although this species was not observed during surveys in the project area, the grassland habitat in the project area is considered potential habitat for migrating and wintering ferruginous hawks. This species could sporadically occur in the project area.

Loggerhead shrike. The loggerhead shrike (*Lanius ludovicianus)* is a federal species of concern and is not listed by the State of New Mexico. It breeds throughout much of New Mexico including in the project area. This species has declined over much of its range and is considered a threatened species in Canada and numerous states (Robert and Laporte 1991). Breeding bird data from 1966 through 1995 show that this species has steadily declined throughout that period in the U.S. including New Mexico (Sauer et al. 1997). The reasons for the decline of this species in northern states is not clear. Robert and Laporte (1991) and Brooks and Temple (1990) have observed good nesting habitat in Canada and Minnesota that is currently not being used by this species. Brooks and Temple (1990) conclude that alteration of the shrike's winter habitat in the Gulf Coast states may be partially responsible for the species decline.

The loggerhead shrike populations north of New Mexico migrate south to New Mexico, Texas, and Arizona to winter (Root 1988) so birds observed during the winter in the project area may represent a combination of resident and wintering birds. The loggerhead shrike was observed 12 times during surveys (Table 3.5.1) in essentially all areas on FLETC and BLM land (Figures 3.5.1 and 3.5.2). This species likely nests in the project area, and elsewhere in southern New Mexico it comprises about 1 percent of the breeding bird population in desert grassland habitats (U.S. Army 1999b).

Mountain plover. The mountain plover (*Charadrius montanus)* is a federal proposed threatened species and is not listed by New Mexico. It is estimated that this species has declined 63 percent since 1966 (Knopf 1994). This species is generally considered an associate of the short grass prairie dominated by blue grama and buffalo grass (*Buchloe dactyloides)* (Knopf and Miller 1994) although it is known to nest in Utah in habitat dominated by low growing shrubs such as sagebrush (*Artemesia* sp.) and rabbitbrush

(*Chryosyhamnus* sp.) (Day 1994). The mountain plover nests and forages in areas of disturbed ground such as occur at prairie-dog towns and areas heavily grazed by livestock (Knopf and Miller 1994, Sager 1996). The bulk of the mountain plover population winters in the central valley of California, and it seems to have adapted to the conversion of much of the native habitat to agricultural fields in that area. The survival rate of mountain plovers on their wintering ground is high, so it appears that the declines noted for this species are attributable to factors on the breeding grounds (Knopf and Rupert 1995).

In a recent survey in New Mexico, the mountain plover was observed at 35 sites in 11 counties during the breeding season. This species was observed in a variety of habitats, but bare ground was a common feature at all the sites and livestock grazing had created most of the bare ground. The bulk of the observations were in the northeast part of the State of New Mexico and none were from Eddy County and there are no historic records of this species from Eddy County (Sager 1996, Sherman 2001). The mountain plover was not observed during field surveys but the grassland habitat in the general area is considered potential mountain plover habitat by the USFWS (Sherman 2001). This species may occur in the project area sporadically during migration but does not likely breed there.

Northern aplomado falcon. The northern aplomado falcon formerly bred in the U.S. from southern Texas westward through southern New Mexico and southeast Arizona (Ligon 1961, USFWS 1990). In New Mexico, Ligon (1961) described the range as the southern portion of the state extending northwest from the Guadalupe Mountains to the base of the Sacramento Mountains, San Antonio, and Silver City. Specimen records and documented sightings indicate that the species was fairly common throughout its range until 1940, but has rarely been seen thereafter (Hector 1987). The last documented nesting of the species in the Chihuahuan Desert portions of U.S. occurred in 1952 near Deming, New Mexico (Ligon 1961) and the species was considered extirpated from the U.S. by the mid 1950's. Since then, only occasional sightings of the species have been documented in Texas, New Mexico, and Arizona (USFWS 1990, Cade et al. 1991, Williams and Hubbard 1991, Williams 1993, Henry and Cathey 1995, U.S. Army 1999a). However, a reintroduction effort is underway in southern Texas with captive-bred individuals being released in the Laguna Atascosa National Wildlife Refuge (Cade et al. 1991) and other areas. As a result, the first breeding pair of aplomado falcons in south Texas in over 50 years was discovered near Brownsville in 1995 (Peregrine Fund 1995). The continued release of captive reared birds has yielded significant results in that at least 16 pairs of aplomado falcons were observed in south Texas during the spring of 1999 (Peregrine Fund 1999). In addition, a pair nested in southern New Mexico near Deming in 2001 and this represents the first nesting pair in New Mexico since the 1950's. This pair did not successfully fledge young (Sherman 2001).

The northern aplomado falcon inhabits open grassland areas. Suitable habitat has low herbaceous ground cover and relatively few scattered, tall, woody plants (particularly yucca and mesquite) that serve as perch and nest sites (Hector 1981). Aplomados are not known to construct their own nests. They occupy abandoned stick nests built by other raptors or ravens. They commonly use nests built in tall forked yuccas although in south Texas, they have been observed nesting on utility poles, in abandoned crested caracara (*Polyborus plancus*) nests on large rose bushes and even on the ground (Peregrine Fund 1999). The former range of the northern aplomado falcon apparently closely overlapped that of the soaptree yucca (*Yucca elata*).

Aplomados prey primarily on small- and medium-sized birds and supplement their diet with insects, small snakes, lizards, and rodents. Montoya et al. (1997) analyzed pellets from Aplomado falcons in northern Chihuahua, Mexico. They found that avian prey made up 94 percent of the diet while insects accounted for the other 6 percent. They did not find rodents or reptiles in pellets or at pluck sites. Insects appear to be an important component of the diet of juvenile aplomados (Montoya 1995).

The project area is considered potential aplomado falcon habitat by the USFWS (Sherman 2001). In addition, a preliminary survey of the grasslands west of Artesia, including BLM Section 2, indicated that these grasslands are marginal potential habitat (Meyer 2001). It is considered marginal because the habitat is on the northern boundary of the aplomado falcon range, and few existing nest sites were observed by Meyer (2001). As indicated in Section 3.5.3, 24 stick nests were observed during the field surveys. It is assumed that most of these nests were constructed by ravens or birds-of prey. Stick nest density was 7/square mile on BLM land and almost 5/square mile on FLETC land. This is higher then the estimated 0.25/square mile on the Otero Mesa grasslands (Meyer 2001). This would indicate that the project area has sufficient perch and nest sites for the aplomado falcon. The aplomado falcon appears to be sensitive to human disturbance (Meyer 2001), so much of the FLETC land in the built-up area and firing range would likely not support this species. The firing range safety fan area particularly towards the north end of Section 34 and the proposed safety fan extension in Sections 27 and 28 may be far enough from these activities to provide potential habitat.

Western burrowing owl. The western burrowing owl (*Athene cunicularia*) is a federal species of concern and is not listed in New Mexico. This species nests in prairie, desert, sagebrush, and pinyon/juniper habitat as well as disturbed areas such as prairie dog towns, road cuts, and airports. Declines in this species are attributed to the loss of burrow nest sites resulting from the eradication of colonial burrowing rodents, particularly prairie dogs (Finch 1992).

The western burrowing owl was observed eight times during field surveys (Table 3.5.1) on FLETC land (Figure 3.5.1) and numerous potential active burrowing owl burrows were also observed. All burrowing owls were flushed from inside or near an active burrow. Potentially active burrows consisted of badger-sized burrows with splotches of white wash or castings on the mound next to the borrow entrance.

Black-tailed prairie dog. The black-tailed prairie dog is a federal candidate species and a State of New Mexico sensitive species. The historic range of the black-trailed prairie dog included 11 states, Canada and Mexico. It currently occupies 10 states, and significant range contractions have occurred in Arizona, western New Mexico, and west Texas. Overall, it is estimated there has been a 98 percent decline in this species throughout North America. Historically in New Mexico, this species ranged over 6,640,000 acres of land, but it currently occupies about 39,000 acres of land (USFWS 2000).

No black-tailed prairie dog towns were observed during field surveys. One potential long abandoned prairie dog town was observed in BLM Section 2 (Figure 3.5-2). There are 20 to 40 prairie dog-sized mounds, but most no longer have any sign of a burrow entrance, and the remainder have eroded burrow entrances that are filled with dirt.

3.6 CULTURAL RESOURCES

3.6.1 Definition of Resource

Cultural resources are any prehistoric or historic district, site, or building, structure, or object considered important to a culture, subculture, or community for scientific, traditional, religious or other purposes. They include archaeological resources (both prehistoric and historic), historic architectural resources, and traditional resources. Only significant cultural resources (as defined in 36 CFR 60.4) are considered for potential adverse impacts from an action. Significant archaeological and architectural resources are either eligible for listing, or listed on, the NRHP. Significant traditional resources are identified by Native American tribes or other groups, and may also be eligible for the NRHP.

The ROI for cultural resources consists of all properties included in the land exchange.

3.6.2 Existing Conditions

3.6.2.1 Historical Setting

The archaeological record of the project region spans more than 10,000 years, beginning with the hunter-gatherers of the Paleoindian, and Archaic-periods. During the Formative Period, the region was the eastern extension of the Jornada-Mogollon culture area. Early Spanish expeditions in the region noted bands of Native Americans throughout the region. However, the density of Native American archaeological sites is relatively low in the area—about six per square mile (USACE 2000).

The 19th and 20th centuries brought large cattle ranches and homesteads to the region. Artesia was part of John Chisum's ranching empire in the 1870s (Banks 2001). Land along the Chisum Trail near Artesia was homesteaded in the 1890s and the area was called by several different names through the decades. The town was named Artesia in 1903 when artesian wells were discovered and agriculture prospered (Banks 2001). Oil was discovered in 1924. The State of New Mexico patented land in much of the project area in 1920 (BLM 2001). Other patent holders in the vicinity included J. Ward Cave (1906) and Frank V. Hagaman (1930) (BLM 2001).

The FLETC Artesia Center was established in 1989 to provide advanced training for such agencies as the Immigration and Naturalization Service, U.S. Border Patrol, the Bureau of Prisons, and other partner organizations with concentrations of personnel in the Western U.S. (FLETC 1999). FLETC became the owner of what had been the Artesia Christian College campus and renovated it to become the Artesia Campus of the FLETC. Training began there in 1990. The Special Training Complex started on land that was formerly patented to the City of Artesia for a shooting range, but was re-conveyed to the U.S. government by the City (Chambers Group 1990).

3.6.2.2 Cultural Resources

No NRHP or state register-listed cultural resources have been identified within the project area (NRHP 2001, NMOCA 2001). Archaeological survey of 960 acres comprising the FLETC firearms buffer zone took place in 1989 (Chambers Group 1990). One archaeological site, a historic homestead (ca. 1920 to 1945), and six isolated artifacts were recorded during survey (Chambers Group 1990). The site (LA 76186) was not evaluated for NRHP-eligibility, and field recording was considered to have exhausted its research potential (Chambers Group 1990). A 1999 survey of 69 acres that included four parcels at the firearms training site (USACE 2000) found no archaeological sites. Further, a file search of archaeological records indicated that no sites had been previously recorded in the area (USACE 2000). Because the FLETC complex is located more than three miles from mesas, canyons, or permanent water sources, subsurface cultural resources have been considered unlikely (Chambers Group 1990, USACE 2000).

An archaeological survey of FLETC lands for this Proposed Action was conducted in September and October 2001 by the University of New Mexico, Office of Contract Archaeology. The preliminary report for the survey identified two historic archaeological sites and 52 isolated lithic artifacts, including one projectile point base dating to the Paleoindian period. The two historic sites were the remains of homesteads. Site LA 134140 dates from the late 1800s to early 1900s, and site LA 134141 appears to have been occupied in the mid-1930s. The sites have not yet been evaluated for NRHP eligibility. Neither site is located where new fence would be installed. Coordination with the New Mexico State Historic Preservation Office (SHPO) and appropriate Native American groups is being conducted by the USACE.

3.7 AESTHETICS

3.7.1 Definition of Resource

Visual resources constitute the natural and manmade features that give a particular environment its aesthetic qualities. A visual impression of an area is derived from the type, arrangement, and contrast between these features. Although each viewer's perception may differ slightly, an overall landscape character can be assigned to an area, and impacts to that character can be assessed. The BLM classifies lands according to their visual resource value in order to manage visual alterations that may result from actions on public land. Visual Resource Management (VRM) Class I is the most protective, allowing little modification of natural features, and VRM Class IV is the least restrictive, allowing noticeable manmade modification in the landscape.

Noise is considered to be unwanted sound that interferes with normal activities or otherwise diminishes the quality of the environment. It may be intermittent or continuous, steady or impulsive, stationary or transient. There is wide diversity in responses to noise that vary not only according to the type of noise and the characteristics of the sound source, but also according to the sensitivity and expectations of the receptor, the time of day, and distance between the noise source and the receptor (e.g., a person or animal).

3.7.2 Existing Conditions

3.7.2.1 Visual Resources

The subject lands are generally flat with slightly rolling terrain. The land is covered by grasslands, clumpy in appearance, with scattered shrubs. The form, line and texture of the natural landscape in the area is generally regular and simple. The predominant colors are muted and light in tone, and include browns, tans, grays and greens. Some manmade elements such as grazing fences, dirt roadways, stock tanks, and windmills are visible, but subordinate to the overall landscape. The facilities of the Special Training Complex have created a new context more typical of urban or industrial sites. The overall landscape quality is moderate, with no local outstanding qualities. The CFO manages visual resources for specially managed areas. None of the project area is within or near an area that is specially managed for visual resources.

3.7.2.2 Noise

Noise from the firing ranges at the Special Training Complex was addressed in an EA prepared in 1990. Noise is generated at the firing ranges and at the driver training area. Land use in the surrounding areas is generally rural with a few isolated homesteads on surrounding properties. Gunshot noise can be heard during training, but is not intense at inhabited structures due to buffering effect of earthen berms. When there is no firing activity, the area is quiet, and natural sounds of wind and birds are audible (Chambers Group 1990, USACE 2000).

3.8 HUMAN HEALTH AND SAFETY

3.8.1 Definition of Resource

This section addresses health and safety associated with activities conducted at FLETC's Special Training Complex in Artesia, specifically small arms training, driver training, and maintenance activities. The region of influence encompasses the complex itself and surrounding areas that may be exposed to safety hazards from the activities conducted at the complex.

3.8.2 Existing Conditions

Day-to-day maintenance and operations conducted by the FLETC are performed in accordance with PL 91-596, Occupational Health and Safety Act (OSHA) of 1970; 29 CFR Part 1960, Safety and Health Provisions for Federal Employees; Executive Order 12196, Occupational Safety and Health of Federal Employees; and Treasury Directive 70-75, Safety Policy of the Center. FLETC has a Safety Program that addresses both safety and occupational health concerns for facilities, storage and handling of materials and munitions, driver training activities, fire response, and firearms training (Chambers Group 1990).

The firearms ranges are surrounded by vacant land to the north, east, and west. There are no downrange inhabited structures downrange from the firing ranges for a distance of 3.5 miles (Chambers Group 1990). The safety zones for the types of munitions currently used extend about 6,700 feet downrange from the firing ranges (shown in Figure 1.1-1). The safety zones are almost wholly contained within the land controlled by FLETC (either through lease or ownership). The EA prepared in 1990 identified the need to acquire additional land to expand safety zones that would accommodate munitions used in rifles. FLETC has restricted training to handguns because of safety zone constraints.

Except for 160 acres in Section 35, all the areas owned or leased by FLETC are fenced to prevent unauthorized access. Access is through one main gate on the south side of the complex. There are signs posted on perimeter fences that warn of potential safety hazards of the firing ranges.

An issue specific to firing ranges includes health effects from lead. Extensive air flow systems and bullet traps were incorporated into the design of the recently constructed indoor/outdoor firing ranges, minimizing the potential for lead inhalation. Lead inhalation is not considered a concern for the outdoor firing ranges that are exposed to open air (USACE 2000). Soil samples from an existing undisturbed berm at the firing range taken in 1989 indicated that lead levels did not exceed state or federal standards. In a recent assessment it was noted that the impact berms and target pits at the two shooting ranges were "strewn with lead shot, metal bullets and split copper jackets." The assessment noted that "potentially large accumulations of lead, copper, and other trace metals in soil associated with shooting at the ranges may present a significant long-term environmental hazard" (EMI 2001).

The U.S. Environmental Protection Agency (USEPA) provides guidelines on assessing the potential for lead to enter into the environment and potential for risk to human health in its publication, *Best Management Practices for Lead at Outdoor Shooting Ranges*. Based on several criteria described in this publication, the potential for lead to pose a risk to human health and safety, through migration into drinking water supplies (either surface or groundwater), is considered low in the project area. Dissolved lead can migrate through soils into groundwater, however, lead does not dissolve in alkaline soils that are found at the firing ranges (Reagan loam). Also, low precipitation and a relatively shallow, dense soil layer would minimize potential for lead to reach groundwater. The perimeter berms at the firing ranges, gentle slopes, and well-drained soils would all minimize surface runoff of water that may contain lead. Therefore, any runoff from the firing ranges that may contain lead would only travel short distances. The one drainage on the edge of the project area that is classified as a water of the U.S. is estimated to be too far to be affected by surface runoff from the firing ranges.

FLETC provides annual physicals to instructors and includes lead-level blood testing (USACE 2000). High lead levels have not been detected from this testing. Also, there are no signs of animal moralities in the project area from lead ingestion.

Driver training instructors are all graduates of the Center's driver training course and receive complete physical exams annually. Driver safety is emphasized, vehicles are well maintained, and both head

protection and seat belts are required or all drivers. The training course has guardrails to prevent accidents and to protect private property (Chambers Group 1990).

3.9 LAND USE AND ACCESS

3.9.1 Definition of Resource

Land use comprises natural conditions or human activities occurring at a particular location. Land use categories reflecting human activities include residential, commercial, industrial, transportation, communications and utilities, agricultural, institutional, recreational, resource extraction and production, and other developed uses. Management plans and zoning subdivision regulations determine the type and extent of land use allowable in specific areas and are often intended to promote the use of land for the benefit of the public health, welfare, and safety, or to comply with other applicable laws.

The attributes of land use addressed in this section include land status (or categorization of land by type of owner), general land use patterns and activities, land use planning and zoning (where applicable), and special use areas.

Access is a necessary provision in order to manage and use public lands for a variety of productive and passive uses. The network of roadways that allows appropriate access to facilities or special features on public lands is the resource of concern. Access also includes other roads that allow service and access to private land within the area of concern.

3.9.2 Existing Conditions

3.9.2.1 Land Use

The project area is generally located in southeastern New Mexico, in Eddy County, a few miles northwest of the City of Artesia. The lands and immediate adjacent areas are outside the incorporated area. As shown in Figures 1.1-2 and 1.1-2, the subject lands are owned by FLETC (1,040 acres), BLM (1,480 acres), and the State of New Mexico (440 acres).

FLETC originally acquired a ROW from BLM for 160 acres and 960 acres for the Special Training Complex, located just north of the municipal airport. An EA was prepared to support this action in 1990. A subsequent EA was prepared in 2000 for proposed facility and firing range expansion. The complex now includes seven outdoor firing ranges surrounded by earthen berms, a defensive driver training course, three indoor firing ranges, and about five or six other buildings used for administrative functions and instruction. The land had previously been used for grazing and production of limited amounts of gravel and limestone. Since the original acquisitions, the land has been used exclusively for FLETC purposes. FLETC's land is mostly fenced (except for the portion in Section 35, see Figure 1.1-1), preventing public access. Signs are also posted that warn of the hazardous training activities.

BLM lands include 640 acres selected to exchange with the State of New Mexico in T17S, R24E, Section 2, and 840 acres to transfer to FLETC in T17S, R25E, and T16S, R25E. The selected exchange lands are part of the Dry Chaparral Grazing Allotment, shown in Figure 2.1-1. This allotment comprises mostly BLM land (89 percent) with some state and private land. It currently supports 694 animal unit months (AUMs)[1] for 65 cattle yearlong (Britt 2001). It is estimated that each section (640 acres) supports an average of ten head of cattle. There are several grazing improvements on the land, including stock

[1] Animal Unit Month: Amount of forage required to sustain a cow/calf unit (one cow and one calf) for one month.

water tanks ("drinkers"), water pipelines, pasture fences, corrals, a well, base water rights, and water storage tanks. BLM recently completed an assessment for a proposal to construct a new pasture fence along the west side of Section 2 that will promote rotational grazing. It is still planning to implement this project.

BLM lands that would be transferred to FLETC under this proposal are listed in Table 2.1-1. They include 240 acres on the south side of the existing complex that are currently being used by FLETC under the original ROW agreement with BLM. These lands had previously been patented to the City of Artesia for use as a shooting range. The land was re-conveyed to the U.S. Subsequently, BLM issued the ROW to FLETC for the same general use as a firing range. There are two oil and gas leases on this land (Chambers Group 1990). This area is mostly fenced, so that public access to FLETC facilities is controlled. The remaining 600 acres are located on the north side of the FLETC complex and are currently used for grazing. The land is within the Brangus Grazing Allotment, shown in Figure 2.1-2. It also comprises a mix of federal (46 percent), state, and private land. The allotment currently supports 744 AUMs (130 cattle and 4 horses) per year on average (Britt 2001). Most of this land has pasture fences along the section boundaries, but is generally accessible to the public for hunting. There is an existing access road, water pipeline, and stock tank on the north side of Section 27 that are critical for ranching operations on the entire allotment.

There is no evidence of antelope in the area, and the level of use for diverse recreation and hunting is low. This land has potential for oil and gas development and other saleable and locatable mineral resources, although there is no existing exploration or production activity (see Section 3.2). There are three existing fluid mineral leases on these lands, and a ROW for a natural gas pipeline. Aside from cattle grazing, none of the subject lands are used for agriculture, and there is no reported evidence of past agricultural uses (EMI 2001).

The state-owned lands are adjacent to BLM lands on the north side of the FLETC complex. They are also within the Brangus grazing allotment and are leased to the same rancher as contiguous BLM lands (above). The SLO has issued a business lease to FLETC for 240 acres in Sections 33 and 34 exclusively for an ammunition trajectory safe zone. The lease was issued in 1996 and expires at the end of 2001. At the time the lease was signed, the area was fenced to preclude public access into unsafe areas. Subsequently, grazing, recreation, and other public uses have not occurred on this land. There are also two 50-foot wide natural gas pipeline ROWs held by Agave Energy Company, crossing Sections 28 and 34. These ROWs are perpetual with right of reversion (BLM 2001).

The surrounding area is mostly undeveloped. Ranching and oil and gas production are the primary productive uses. There are a few scattered homesteads. To the southeast of the FLETC complex is the Artesia Municipal Airport, and the former landfill for the City of Artesia is located to the southwest (Chambers Group 1990). Private lands surrounding the FLETC falls under the jurisdiction of Eddy County. Within three miles of the incorporated land at the airport, the City of Artesia has joint interest with Eddy County in future development and land use planning. The City of Artesia Planning Department indicates that development is not projected or planned for areas adjacent to the subject lands (Connelly 2001).

BLM lands in the surrounding area are managed for multiple uses by the BLM CFO. The land is managed to allow for resource production and public access while protecting the environment. There are no specially protected or specially managed areas, such as Areas of Critical Environmental Concern, Wilderness, or Wilderness Study Areas on or near the subject lands (BLM 1988). The public has access to surrounding BLM lands and is able to participate in dispersed activities such as hunting, gathering of vegetation products, Off-Road Vehicle use, and other recreational uses.

3.9.2.2 Access

The primary regional highways serving the City of Artesia are NM 82 and US 285. Access to the FLETC Special Training Complex from the City of Artesia is via County Road 111. County Road 90 runs from the City of Artesia westward and provides access to the BLM selected lands in Section 2. A network of smaller roadways provides access both within the subject lands and in the surrounding areas. These are comprised of county, BLM, private, and state roads that provide access for ranchers, to oil and gas, and other facilities. Some private roads are gated and do not provide through access to public lands. An unpaved roadway along the north end of Section 27 of the subject lands provides access from the east to the west portions of the Brangus Grazing Allotment.

3.10 SOLID AND HAZARDOUS MATERIALS AND WASTE

3.10.1 Definition of Resource

This resource addresses the appropriate use, storage, and disposal of materials and waste products. The terms "hazardous materials" and "hazardous waste" refer to substances defined as hazardous by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA). In general, hazardous materials include substances that, because of their quantity, concentration, or physical, chemical, or infectious characteristics, may present substantial danger to public health or the environment when released into the environment. Hazardous wastes that are regulated under RCRA are defined as any solid, liquid, contained gaseous, or semisolid waste, or any combination of wastes that either exhibit one or more hazardous characteristics including ignitability, corrosivity, toxicity, or reactivity, or are listed as a hazardous waste under 40 CFR Part 261. Petroleum products include petroleum-based fuels, oils, and their wastes. Solid waste includes all non-hazardous wastes, including construction, demolition, and landscape debris.

3.10.2 Existing Conditions

3.10.2.1 Hazardous Materials and Wastes

An Environmental Site Assessment (ESA) was recently performed for the 2,960 acres that are the subject of this EA. The ESA referred to the BLM exchange lands (T17S, R24E, Section 2) as the "remote parcel." The larger area of contiguous lands comprised of FLETC land and state and BLM lands were designated as the "main parcel." A search of federal and state environmental databases did not reveal any recognized environmental concern (REC) sites on the subject property. A former community landfill was identified to the southwest of the main parcel (five miles west of the city of Artesia). This landfill was certified as closed in 1998 (EMI 2001).

The ESA did not identify any past or present signs of development or use on the remote parcel other than grazing. There were no indications of spills, hazardous wastes, or hazardous waste sources on the BLM exchange parcel (EMI 2001).

On the main parcel, there is evidence of a former habitation site with trash midden and two livestock wells. A depression in the south central part of the main parcel has been used as a community dump site and as an unpermitted shooting range. It appears that only residential and construction debris were deposited. There are no visible signs of hazardous materials at either the dump or midden site (EMI 2001). The ESA recommends that three (formerly-used) livestock wells "be sealed and properly abandoned to prevent them from acting as a conduit for possible groundwater contamination or as a receptacle for illicit dumping, some of which may have already occurred (EMI 2001)."

Most current activities with potential to use hazardous materials or to generate hazardous waste are associated with FLETC's Special Training Complex. FLETC's facilities, including the indoor and outdoor firing ranges, occupy a small portion of the main parcel in T17S, R25E, Section 3. A driving instruction course, located southwest of the firing ranges, has a winding track with berms on the curves, and a long skid pad. Most of the main parcel has been grazed in the past.

The current shooting ranges contain potentially hazardous lead shot, metal bullets, and split copper jackets, primarily concentrated along the tops and slopes of impact berms. Soil samples were taken from undisturbed berms at the firing ranges in 1989. These samples did not find lead present in levels above state and federal standards at that time (Chambers Group 1990). The ESA indicated that "potentially large accumulations of lead, copper, and other trace metals in soil associated with shooting at the ranges may present a significant long-term environmental hazard" (EMI 2001). As permitted by state and federal regulations, FLETC anticipates leaving firing debris in place until the range ceases to be used (Vaught 2001).

Of particular concern at shooting ranges is the potential for health effects from lead sources. During the lifetime of the range, the New Mexico soil screening standard of 1,000 ppm for lead would apply (Atencio 2001). At closure, the range and surrounding areas would need to be cleared and remaining soil would need to meet state and federal screening standards for all contaminants. Specifically, under 40 CFR 261.24, the soil screening level for lead, currently five ppm, would apply for all potential contaminants, including lead (Atencio 2001). Until that time, concentrations of lead and other metals in the soil at the firing ranges are not expected to pose an environmental risk (see Section 3.8.2).

Other potentially hazardous materials are used and stored in small quantities at the FLETC compound. Fertilizers, herbicides, pesticides, solvents, antifreeze, and petroleum products are used, stored and disposed of in accordance with regulations. Buildings at the FLETC compound could contain lead-based paint, asbestos-containing material, and/or polychlorinated biphenyl-bearing light ballasts. There is no evidence of underground or aboveground storage tanks on the subject lands. The search of state and federal databases revealed three unlocatable underground storage tanks in the Artesia area (EMI 2001, Chambers Group 1990).

3.10.2.2 Solid Waste

As described above, a partially covered, unpermitted dumpsite containing primarily common household trash and debris, dating to the 1940s and 1950s is located in an arroyo on the south end of the main parcel. There are no records regarding the type of material deposited in the dump. Adjacent to the dumpsite is a large pile of asphaltic concrete. The community has also used the arroyo as an unpermitted shooting range in the past. A trash midden on the east side of the main parcel has metals, glass, and ceramics associated with historic habitation (EMI 2001). FLETC's solid waste is currently collected and taken to a certified landfill.

3.11 SOCIOECONOMICS

3.11.1 Definition of Resource

Socioeconomic resources include population and economic activity, as reflected by personal income, employment distribution, and unemployment. Some related secondary components, such as housing availability and public services, are not considered in this analysis because the action has no potential to generate measurable changes in populations that would create demand for these resources. Statistics at the county, state, and national level will be used to describe the socioeconomic context. Eddy County serves as the ROI in which most impacts can be expected to occur, and the state and nation serve as regions of

comparison. Specific information for grazing and the oil and gas industry in the local area and ROI are relevant and also presented.

3.11.2 Existing Conditions

Population. FLETC is located outside of Artesia, New Mexico, in Eddy County. Eddy County is roughly 4200 square miles, with approximately 12.4 persons per mile. It is generally rural in character and has no major urban center. However, the Cities of Artesia and Carlsbad have populations of 10,692 and 25,695, respectively in 2000. The total population of Eddy County in 2000 was 51,658 (U.S. Census 2000a,b). Carlsbad, the county seat, is approximately 35 miles from the site.

Personal Income. In 1999, Eddy County had a per capita personal income (PCPI) of $19,843. This PCPI ranked 8th in the State of New Mexico, and was 91 percent of the State of New Mexico average, $21,836, and 70 percent of the national average, $28,546. In 1989, the PCPI of Eddy County was $13,818 and ranked 6th in the State of New Mexico. The average annual growth rate of PCPI over the past 10 years was 3.7 percent. The average annual growth rate for the State of New Mexico was 4.5 percent and for the nation was 4.4 percent (BEA 2001).

Employment. Mining dominates the county economy as the largest industry in 1999, with 20.8 percent of earnings, followed by services (18.4 percent), and state and local government (12.9 percent) (BEA 2001). The importance of these industries is reflected in the Artesia economy, where mining and services figure heavily, as the breakdown of its largest employers in **Table 3.10-1** shows. Unemployment, however, was higher in Eddy County (6.6 percent) in the year 2000 than either the state (4.9 percent) or national level (4 percent) (BLS n.d.a., n.d.b., 2001).

Table 3.10-1. Top Six Employers in the City of Artesia, New Mexico

Employer	*Number of Employees*
Navajo Refining Co.	430
Artesia Public Schools	400
Yates Petroleum	350
City of Artesia	151
FLETC	125
Artesia General Hospital	115

Source: CoC 2001.

3.12 ENVIRONMENTAL JUSTICE

3.12.1 Definition of Resource

To comply with NEPA, the planning and decision-making process for actions proposed by federal agencies involves a study of other relevant environmental statutes and regulations, including EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, which was issued by President Clinton on February 11, 1994. The essential purpose of EO 12898 is to ensue the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental

laws, regulations, and policies. Fair treatment means that no groups of people, including racial, ethnic, or socioeconomic groups, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, tribal, and local programs and policies. Also included with environmental justice are concerns pursuant to EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*. This EO directs federal agencies to identify and assess environmental health and safety risks that may disproportionately affect children under the age of 18. These risks are defined as "risks to health or to safety that are attributable to products or substances that the child is likely to come in contact with or ingest."

Environmental justice considerations addressed in this assessment involve both population demographics, including ethnic, racial, or national origin characteristics, and persons in poverty, including children under age 18. In order to determine whether environmental impacts affect minority or low-income populations, it is necessary to establish a basis of comparison, referred to as the "region of comparison." This area consists of the geopolitical units that include the proposed project. Most environmental effects from the Proposed Action, in this instance, would be expected to occur in Eddy County, New Mexico.

3.12.2 Existing Conditions

Population. The demographics at the county, state, and national levels are compared in **Table 3.11-1**.

Table 3.11-1. Profile of Demographic Characteristics, Year 2000

Geographic Area	*Total Population*	*Race (Percent of Total Population)*							
		White	*Black or African American*	*American Indian and Alaska Native*	*Asian*	*Native Hawaiian and Other Pacific Islander*	*Some Other Race*	*Two or More Races*	*Hispanic or Latino (of Any Race)*
U.S.	281,421,906	75	12	1	4	< 1	5	2	13
New Mexico	1,819,046	67	2	10	1	< 1	17	4	42
Eddy County	51,658	76	2	1	< 1	< 1	18	3	39
Artesia	10,692	72	1	2	< 1	< 1	22	3	45

Source: U.S. Census 2001a,b.

When compared to the national level, the population of Eddy County has proportionally more persons of Hispanic background, while less of other minority groups, including Asian and Black. However, racial composition is similar to the state as a whole, with a higher percentage of White (76 percent compared to 67 percent for New Mexico. (It should be noted that persons of Hispanic or Latino origin may be White or any other race.) In addition, almost 18 percent claimed to be of some other race, while only 5.5 percent did so at the national level. When compared to New Mexico, Eddy County has a lower percentage of Hispanic and American Indians. Consequently, the population of Eddy County is not disproportionately composed of minority groups compared to the region, although there may be specific locations where this is not the case.

Poverty and Low Income Populations. The percentage of the population in New Mexico living below poverty (19.9 percent) is higher than for the nation (13.3 percent). Similarly, the percent of children living below poverty in New Mexico (27.5 percent) is considerably higher than the nation (19.3 percent). Poverty conditions in Eddy County are similar to state levels, but somewhat better than the state, with 18.6 percent below poverty and 25.3 percent of children below poverty. Therefore, Eddy County, when compared to the state, is not disproportionately low-income (U.S. Census 2000a,b).

4.0 Foreseeable Effects

This section of the EA assesses potential foreseeable effects associated with the Proposed Action. Potential impacts are addressed in the context of the scope of the Proposed Action, as described in Section 2.0, and in consideration of the potentially existing environment, as characterized in Section 3.0.

4.1 EARTH RESOURCES

4.1.1 Evaluation Criteria

Impacts to soils are usually considered to occur when there is some surface disturbance that would remove vegetation, resulting in bare soil that would be subject to loss and transport through wind and water erosion. Soils are often considered when their characteristics would affect land use decisions and for their potential to affect other resources.

4.1.2 Impacts

4.1.2.1 Proposed Action

The Proposed Action would not result in surface disturbance, other than the minor temporary disturbance required to install fencing. Care should be taken to minimize damage to soil-protecting vegetation when using the land for grazing or driving over the soils. However, there would be no significant impacts to soils or geology as a result of the Proposed Action. Increased use of ammunitions would contribute to accumulations of bullet debris and lead in the soil, particularly in the firing range berms. However, lead would precipitate out of solution in the alkaline Reagan loam soils located at the firing range (USEPA 2001). Potential development of oil and gas leases on land transferred to the state could require surface disturbing activities. These would be minor, and environmental assessment would be required of any applications to drill.

4.1.2.2 No Action Alternative

Under this alternative, new fencing would not be constructed, so there would be no surface disturbance that would result in impacts to soils and geology. There would be no change in firing range activities.

4.1.2.3 Cumulative Impacts

There may be future development of oil and gas facilities in the vicinity of FLETC that would result in surface disturbance. Because this activity is regulated by state and federal laws and policies that require mitigation of soil erosion, no significant cumulative impacts are anticipated.

4.2 MINERAL RESOURCES

4.2.1 Evaluation Criteria

Impacts to mineral resources occur when areas are withdrawn from productive use or closed to leasing. The analysis considers the potential loss of mineral production or access, as a portion of the overall resource in the region.

4.2.2 Impacts

4.2.2.1 Proposed Action

Under the Proposed Action, mineral estates would be exchanged or transferred along with the surface mineral estate. In accord with its mandate to generate revenues, the SLO would allow future mineral leasing on the lands it receives from BLM in the land exchange (T17S, R24E, Section 2) as they have been in the past. No existing mineral leases have been identified for this land, although the land could be leased and developed in the future. Environmental clearance would be part of the approval process for any future drilling applications on this land.

There would be no future mineral leasing on the 1,040 acres of land transferred from BLM to FLETC after the land exchange. BLM would continue to manage existing mineral leases subject to valid rights. BLM would process any future applications to drill under the existing terms of the leases. BLM would coordinate with FLETC on specific conditions of approval, such as avoidance of safety areas, cultural sites, or other sensitive area, or limitations on hours of access. Environmental assessment would be part of the approval process for any future applications. Surface disturbance and occupancy may be restricted in some areas.

Withdrawal of the transferred lands from future mineral leasing could restrict future production on 1,040 acres. However, some fluid mineral pools could be accessible through directional drilling from adjacent lands. With a mineral estate of over 4 million acres under CFO management (including over 3 million acres in oil and gas estate), there would be an insignificant reduction in accessible fluid mineral resource. There would be no potential for future environmental impacts from mineral production on 1,040 acres. Land transferred to the State of New Mexico would continue to be available for mineral leasing and sale.

4.2.2.2 No Action Alternative

Under the No Action Alternative, there would be no change to mineral resources. Oil and gas development within existing safety zones would continue to be constrained in existing safety zones due to firing range hazards. Environmental effects would be unchanged.

4.2.2.3 Cumulative Impacts

Mineral resource development in southeastern New Mexico will continue to respond to market demands. Economically accessible resources are likely to be developed in the future. The Proposed Action would contribute negligible cumulative effects on the environment in combination with other future development.

4.3 WATER RESOURCES

4.3.1 Evaluation Criteria

Potential impacts to water resources generally result from actions that cause surface disturbance resulting in erosion and sedimentation, increased stormwater runoff caused by more impervious surface areas, or the use of materials that could leach through the soil into the groundwater or be transported into arroyos or streams through soil erosion.

4.3.2 Impacts

4.3.2.1 Proposed Action

While the soils have the potential for erosion if they are disturbed, minimal surface disturbance and very slightly increased impervious surface area from fence construction under the Proposed Action would not cause any appreciable erosion. Most of the soils have moderately slow permeability or have a layer that would minimize the potential for lead to leach into the groundwater. For this reason, and because no actions are proposed that would result in pollutant spills, implementing this alternative would not result in impacts to groundwater. No significant impacts to water quality or quantity would result from the Proposed Action. The ESA recommends that abandoned livestock wells be plugged and properly abandoned to prevent them from acting as conduits for possible groundwater contamination (EMI 2001).

4.3.2.2 No Action Alternative

There would be no change in water quality or quantity under the No Action Alternative because no changes in land use or activities would occur.

4.3.2.3 Cumulative Impacts

No major construction projects are known to be planned in the vicinity of the transferred land so no changes in water quality or quantity are anticipated.

4.4 AIR QUALITY

4.4.1 Evaluation Criteria

Criteria for evaluating air quality impacts are based on whether the actions proposed would result in non-attainment of the federal, state, and local air pollution standards and regulations.

4.4.2 Impacts

4.4.2.1 Proposed Action

Eddy County is considered in attainment for all air quality standards. Minimal ground disturbance for constructing a perimeter fence under the Proposed Action would generate a minor amount of dust and vehicle emissions, but the dust and vehicle emissions would be temporary and would not cause any change to attainment status. Increased use of outdoor firing ranges would not contribute to any exceedance of regulated air quality standards.

4.4.2.2 No Action Alternative

The No Action alternative would cause no impacts to air quality because there would be no change in land use.

4.4.2.3 Cumulative Impacts

While there are some reported area and point source emissions in Eddy County (AIRData 2001), known projects would not result in changes in attainment of air quality standards.

4.5 BIOLOGICAL RESOURCES

4.5.1 Evaluation Criteria

Impacts to biological resources are determined based on field surveys and the impacts to biological resources resulting from the land exchange and enlarging the safety fan on FLETC property. As indicated in Section 2.1, approximately 7.5 miles of perimeter fences would be constructed. It is assumed that the amount of land disturbed by this activity would be minimal.

4.5.2 Impacts

4.5.2.1 Proposed Action

The construction of the perimeter fence in Sections 27, 28, and 35 would result in very little disturbance of the native grassland plant community and associated wildlife habitat. In addition, the very limited amount of ground disturbance is not expected to result in an increase in invasive plants such as the Russian thistle. The pronghorn antelope was not observed during field surveys and this species is not known to occur in the area. However, the grassland habitat in the project area represents potential pronghorn habitat, so it is recommended that the bottom wire of the perimeter fence be smooth to facilitate pronghorn antelope movement should they become reestablished in the area.

Land transferred to the State of New Mexico from BLM in T16S, R24E, Section 2 (see Figure 1.1-2) would continue to be grazed, so the effects of grazing on vegetation and wildlife are not expected to change in this area. As indicated in Section 2.1, Section 27 and parts of Sections 28 and 35 (see Figure 1.1-1) could be grazed until the grazing lease expired in 2004 so the plant communities and wildlife habitat in these areas are not expected to change. Grazing would no longer occur on these 800 acres after 2004, which could result in changes in the plant community structure. The area would continue to be desert grasslands with scattered shrubs, but an increase in ground cover could occur after grazing is discontinued. Evidence for this comes from a preliminary analysis of satellite imagery data of the yucca-grasslands on Otero Mesa, about 80 miles from the project area. That analysis found there was less bare ground and greater vegetative cover in ungrazed than grazed areas (U.S. Army 1999a). In addition, the BLM found that grass cover was less on Otero Mesa than it would have been with reduced or no grazing (BLM 1980). In another study documenting this same trend (Brady et al. 1989), they found that grazed grasslands in two areas of Arizona had 29.2 and 63 percent cover, and after being fenced to exclude livestock for 15 years, the percent cover increased to 85.3 and 85.7 percent, respectively.

These potential changes in vegetative cover could lead to changes in the wildlife community. For example, Jones (1981) found lizard species richness and abundance was greater in lightly grazed than in heavily grazed sites. Some species of birds (horned lark, black-throated sparrow, and northern mocking bird) respond positively to grazing while others (Cassin's sparrow [*Aimophila cassinii*], grasshopper sparrow [*Ammodramus savannarum*], and meadowlarks) respond positively to reduced or no grazing (Bock and Webb 1984, Bock et al. 1993). Other studies have shown that small mammals are more abundant and have higher species diversity in ungrazed areas (Bock et al. 1984, Rosenstock 1996). This indicates that discontinuing grazing may benefit numerous species but also be detrimental to some species of wildlife.

The effects of the Proposed Action on sensitive species would be minimal given the small amount of habitat disturbed by fence construction. Soaptree yuccas with stick nests occur in the area of the north perimeter fence of Sections 27 and 28 (Figure 3.5-1). As indicated in Section 3.5, stick nests are an important component of potential aplomado falcon nesting habitat. The perimeter fence would be aligned to avoid these yuccas and therefore not affect aplomado falcon potential habitat. Discontinuing grazing in

Section 27 and parts of Sections 28 and 35 would have mixed effects on sensitive species. The Texas horned lizard, ferruginous hawk, mountain plover, western burrowing owl, loggerhead shrike, and black-tailed prairie dog may benefit from grazing (Bock et al. 1993, Lehman and Allendorf 1987, Knopf and Miller 1994, Saab et al. 1995, and Sager 1996). Baird's sparrow and the aplomado falcon may benefit from discontinued grazing (U.S. Army 1999a).

There has been no evidence of animal mortalities due to lead at FLETC. Increased training is not expected to cause impacts to wildlife from firing range debris.

4.5.2.2 No Action Alternative

The No Action alternative would result in no additional impacts to vegetation, wildlife, and sensitive species. Current land uses would continue, and a perimeter fence would not be constructed. Section 2 on BLM land would remain within the BLM, and grazing would continue to be the primary land use. Section 27 and parts of Sections 28 and 25 would not be fenced, and grazing would continue in these areas also. The potential affects of fencing these areas and excluding livestock as discussed above under the Proposed Action would not occur.

4.5.2.3 Cumulative Impacts

Implementation of the Proposed Action is not expected to result in any negative cumulative impacts to biological resources because this action would have very little negative impact on these resources. It could have a slight positive cumulative impact on biological resources because of the withdrawal of approximately 1,280 acres of land from livestock grazing between 1990 and 2004 at the Special Training Complex, which could benefit some species of wildlife. Also, the withdrawal of this land for a safely fan could prevent it from being developed for other purposes in the future.

4.6 CULTURAL RESOURCES

4.6.1 Evaluation Criteria

Cultural resources are subject to review under both federal and state laws and regulations. Section 106 of the National Historic Preservation Act (NHPA) of 1966 empowers the Advisory Council on Historic Preservation (ACHP) to comment on federally initiated, licensed, or permitted projects affecting cultural sites listed or eligible for inclusion on the NRHP. Significance evaluation is the process by which resources are assessed relative to NRHP significance criteria for scientific or historic research, for the general public, and for traditional cultural groups. Those cultural resources determined to be significant are protected under the NHPA.

Analysis of impacts to cultural resources considers both direct and indirect impacts. Direct impacts may occur by physically altering, damaging, or destroying all or part of a resource; altering characteristics of the surrounding environment that contribute to the resource's significance; introducing visual or audible elements that are out of character with the property or alter its setting; or neglecting the resource to the extent that it deteriorates or is destroyed. Direct impacts can be assessed by identifying the types and locations of proposed activity and determining the exact location of cultural resources that could be affected. Indirect impacts result primarily from the effects of project-induced population increases.

4.6.2 Impacts

4.6.2.1 Proposed Action

Under the proposed land exchange, no building construction would take place. FLETC would install up to 7.5 miles of perimeter fencing around transferred lands and other parcels, closing the properties to public access. Grazing on 800 acres would be discontinued after the land transfer. The parcels to be transferred are wholly or partially within the current safety fan of the existing firearms training range. This use would continue under the Proposed Action.

Impacts to significant cultural resources (historic properties) are not expected under the Proposed Action. The two historic archaeological sites located on lands associated with the Proposed Action require evaluation for NRHP eligibility. This evaluation, and consultation with the New Mexico SHPO in compliance with Section 106 of the NHPA, would be completed prior to project initiation. The USACE is conducting coordination with the SHPO and appropriate Native American groups. Neither site is located where new fence would be installed, and no impact would result from passive use as a safety zone.

4.6.2.2 No Action Alternative

Under the No Action Alternative, the land exchanges would not take place. Grazing would continue, and lands would continue to be managed by federal and state agencies. No impacts to cultural resources are expected under this alternative.

4.6.2.3 Cumulative Impacts

Cumulative impacts to cultural resources are not expected under the Proposed Action.

4.7 AESTHETICS

4.7.1 Evaluation Criteria

Effects on visual resources are assessed according to the potential for visual modification of the landscape from proposed activities, considering the visual resources value of the area. Changes in noise levels that may result from proposed activities are examined for compatibility with recommended noise levels for adjacent land uses.

4.7.2 Impacts

4.7.2.1 Proposed Action

Construction of fences under the Proposed Action would have little effect on the overall landscape, and would be similar to existing elements in the surrounding context. In some locations, new fence would replace old pasture fences and would not add new visual elements. The type of 5-strand wire fencing proposed is not conspicuous in the middle to distant landscape and is only noticeable at closer viewing. There are no sensitive visual resources or viewing locations in the surrounding areas, therefore, the potential for impact is negligible.

There would be no change in the type of operations at the Special Training Complex under the Proposed Action, therefore, noise conditions would not change. Students and instructors wear protective headwear to minimize noise, in accordance with OSHA standards. There may be a few truck trips on the periphery

of the property during fence construction, but these would be temporary and not contribute to higher noise levels.

4.7.2.2 No Action Alternative

There would be no change and no impact to visual or noise conditions under this alternative.

4.7.2.3 Cumulative Impacts

Future uses and development of the subject lands could include oil and gas production. Vehicular traffic and compressors can generate noise at well site locations. Impacts would be identified for specific sites, and suitable noise reducing measures would be identified for any future proposals. Overall, cumulative noise levels from operations of the Special Training Complex are expected to remain very low in the area.

4.8 HUMAN HEALTH AND SAFETY

4.8.1 Evaluation Criteria

The elements of the Proposed Action and No Action alternative with potential to affect health and safety are evaluated relative to the degree to which the action increases or decreases safety risks to the public, personnel, or property.

4.8.2 Impacts

4.8.2.1 Proposed Action

Under the Proposed Action, the land acquired by FLETC would be used as an expanded safety zone for proposed rifle training. All areas within potential firing distance from the ranges would be under FLETC control. Since the area would be fenced and signs posted to prohibit access to areas with potential safety hazards from firing ranges, injury from these uses would be avoided. Also, the surrounding area is essentially isolated. Persons associated with ranching and some oil and gas operations would be aware of FLETC activities. Unauthorized access by members of the public is not currently an issue and is not expected to a problem in the future.

Accumulation of lead in firing range berms is expected from proposed increase firearms training. However, potential risks to human health and safety from lead are estimated to be low, as described in Section 3.8.2. FLETC would comply with USEPA regulations for disposal of waste streams generated by firearms use. Inhalation of lead and gunpowder residues is not considered a concern at outdoor ranges, since facilities are exposed to open air flow and indoor/outdoor ranges are well ventilated (USACE 2000).

No safety issues or impacts would result from the transfer of BLM lands to the state of New Mexico.

4.8.2.2 No Action Alternative

Under the No Action alternative, munitions with longer firing distances would not be used. Implementation of FLETC's Safety Program would continue to safeguard safety and health of personnel, students, and the public. As described above, ongoing activities at the shooting ranges are not likely to pose risks to human health and safety.

4.8.2.3 Cumulative Impacts

Cumulative impacts would be similar to the Proposed Action. In combination with ongoing training, the potential for long-term accumulation of lead and other metals in the soil could occur more rapidly with increased training. However, site conditions minimize the health risk associated with these uses. Also, final closure requirements would ensure that soil levels are safe for future uses.

4.9 LAND USE AND ACCESS

4.9.1 Evaluation Criteria

Land use impacts can result if an action displaces an existing legitimate use (that is lawful, suitable, and/or permitted), or reduces the suitability of an area for its current, designated or formally planned use. In addition, a proposed activity may be incompatible with local plans and regulations that provide for orderly development to protect the general welfare of the public, or conflict with management objectives of a federal or state agency of an affected area. Land use development would need to comply with federal and state environmental laws and regulations.

4.9.2 Impacts

4.9.2.1 Proposed Action

Land Use

Federal Land. The Proposed Action involves a change in land status of 1,480 acres of federal land. Disposal of these lands is consistent with the lands program for the CFO RMP. Future revisions to the RMP would incorporate administrative boundary changes of this action, but are not required in order to process the land transaction.

There would be no change in land use on the 640 acres of land selected for exchange with the State of New Mexico (T16S, R24E, Section 2). Surface improvements and mineral estate would also be transferred to the state. The state would continue to issue any associated ROWs or permits for amenities and resources. Existing grazing permits would be honored until they expire, after which the SLO intends to reissue grazing leases. Although there is currently no mineral leasing and production, the state would keep them available for this use.

On the remaining 840 acres, certain existing public uses would be affected. There would be no change in management of existing mineral leases on 840 acres of BLM land that would be transferred to FLETC. Leases would continue until their expiration date or other terminating condition. BLM would process applications to drill in coordination with FLETC. Conditions of approval on future applications would be determined based on site-specific parameters in order to avoid environmentally sensitive or unsafe areas. These conditions could include directional drilling, constraints on hours of access, or other restrictions, such as No Surface Occupancy. Environmental assessment of future applications would be required prior to approval. FLETC does not intend to issue new leases for mineral production. Loss of potential mineral development represents an extremely small portion of the 3.9 million acres available for oil and gas leasing in the CFO. Similarly, withdrawal of this land from salable and locatable mineral uses would represent a minimal loss of regional resources.

The 840 acres would not be available for grazing. This would represent no change on 240 acres of BLM lands within a ROW in Section 3 that have been used by FLETC since 1990. On the remaining 600 acres (in Sections 27 and 28) a reduction in grazing land for about 9 to 11 head of cattle would affect one

allottee (on the Brangus allotment). However, this represents an insignificant loss in grazing land in the CFO as a whole. FLETC would move one stock tank and allow for continued use of a water pipeline and ranch access road; therefore, grazing operations on the remainder of the allotment would be unaffected.

Construction of a perimeter fence around the transferred lands would preclude access for dispersed recreation, hunting, and other passive public uses. This represents an insignificant loss of land for these activities in the Field Office. The subject lands have no distinctive features for recreation. Similarly, there is no evidence of game, and therefore, the area has little opportunity for game hunting.

State Land. The Proposed Action involves a change in land status of 440 acres of state land. These lands would ultimately be transferred to FLETC for use as an ammunition safety zone. Use of 240 acres of this land that is currently leased to FLETC (in Sections 33 and 34) for an ammunition safety zone would not change. This area has been fenced and has not been leased for grazing for the last five years, nor has there been public access to these areas. The remaining 200 acres (in Sections 27 and 28) would no longer be available for grazing (of 3 to 4 head of cattle), public access for dispersed recreation, or for future mineral uses. Impacts to these displaced uses would be similar and additive to those described above.

Access

There would be no public access to the lands transferred to FLETC. A perimeter fence would limit access to controlled or designated entry points onto the Special Training Complex. FLETC would allow the Brangus allotment holder to have access on the road at the north end of Section 27 for ranching operations. No other changes in access would result on subject lands.

4.9.2.2 No Action Alternative

There would be no change in land use from existing conditions. There would continue to be public access and use of lands within firearms range safety zones. This would continue to be a safety concern.

There would be no change in access to subject lands or surrounding areas and therefore no impact.

4.9.2.3 Cumulative Impacts

There could be future fluid mineral development in areas surrounding the FLETC. Implementation of BLM management direction and state mandates could result in future productive uses. These uses would need to conform with approved plans and comply with existing laws. Urban-type development is not expected in surrounding areas; therefore, the potential for future incompatible development in the project area is minimal.

No cumulative impacts on access are expected. Additional fluid mineral development in the are could increase accessibility to areas around the Special Training Complex.

4.10 SOLID AND HAZARDOUS MATERIALS AND WASTE

4.10.1 Evaluation Criteria

The qualitative assessment of impacts from hazardous materials and solid waste management focuses on how and to what degree the alternatives affect hazardous materials usage and management, hazardous waste generation and management, and waste disposal. A substantial increase in the quantity or toxicity of hazardous substances used or generated would be considered potentially significant. Significant

impacts could result if a substantial increase in human health risk or environmental exposure was generated at a level that could not be mitigated to acceptable standards.

4.10.2 Impacts

4.10.2.1 Proposed Action

Hazardous Materials and Wastes

Under the Proposed Action, FLETC would continue to operate as it currently does. Proposed use of rifles and projected increase in the volume of firearms training is likely to increase the amount of solvents being used for cleaning weapons. FLETC would be responsible for storing, handling and disposing of all materials in accordance with regulations; therefore, no environmental impact is expected.

Increasing the amount of ammunitions used at the firing ranges would contribute to accumulations of lead, copper, and other trace metals in the soil over the long-term, particularly in the berms of the firing ranges. The degree of environmental hazard or risk to human health (e.g., from lead entering drinking water supplies) is currently unknown. However, several factors indicate that it is unlikely that lead would be a concern in the project area. Section 3.8.2 describes local conditions that would inhibit migration of lead. As described in Section 3.10.2, at the time of closure, the range and surrounding area would need to be cleared and meet soil screening levels described in 40 CFR 261.24, for all potential contaminants, including lead (Atencio 2001).

The proposed land transfer would facilitate the proposed use of rifles and extend the area where stray bullets may be deposited. Accumulation of lead and other metals from stray bullets beyond the firing range berms within the expanded safety zones would be very low. This would pose even lower risk to the environment over a long period than in the firing areas themselves.

The remote parcel would continue to be used for grazing and available for future mineral leasing and production. This represents no change from existing conditions and therefore no impact from hazardous materials. Future proposals would be evaluated on a case-by-case basis. Any potential future uses would need to comply with all state and federal regulations governing hazardous materials and waste, minimizing the potential for adverse impacts on the environment.

Solid Waste

There may be a slight increase in generation of solid waste with increased levels of firearms training. However, this is not expected to significantly impact the capacity of local or regional landfills.

4.10.2.2 No Action Alternative

Under the No Action alternative, there would be no increase in the amount of potentially hazardous materials used or wastes generated at the FLETC compound. The current rate of accumulation of lead, copper, and other trace metals in the soil would not change. Potential for environmental hazard is considered low, as described in Section 3.8.2.

4.10.2.3 Cumulative Impacts

Cumulative impacts would be similar to those described for the Proposed Action. In combination with current firearms training, proposed increases would accelerate the accumulation of lead, copper, and other trace metals at the firing ranges.

4.11 SOCIOECONOMICS

4.11.1 Evaluation Criteria

The Proposed Action is evaluated based on estimated changes to employment earnings or population dynamics in the local area. If appreciable population changes could result (greater than 5 percent), then potential secondary effects on public services are considered.

4.11.2 Impacts

4.11.2.1 Proposed Action

Implementation of the Proposed Action would have negligible effect on the regional economy. Very little materials would be purchased for the construction of fencing. No permanent construction or government positions are being created; consequently, there would be no immediate or long-term change in employment or population. No changes to regional socioeconomic patterns or trends would occur.

Under the Proposed Action, there would be a slight reduction in grazing land in the CFO. About 800 acres would no longer be available. This represents an extremely small portion (less than one tenth of one percent) of the 2.2 million acres of federal grazing land in the CFO (BLM 1988).

However, the land exchange is expected to have some localized impacts on the ranchers using the two affected grazing allotments. Because the State of New Mexico charges a higher rate per AUM than the BLM ($3.64 compared to $1.35, respectively), there would be minor increases in costs for the Dry Chapparal allotment holder. Also, the state uses a competitive bidding process, so there is potential that the current rancher could be outbid and lose grazing on the allotment. However, state leasing regulations grant the allottee the same rights as a state grazing lessee to match any competitive lease bid and obtain a new state grazing lease (19 New Mexico Administrative Code 3.8.8.7). Under the Proposed Action, 800 acres would no longer be available for grazing in the Brangus allotment, reducing the number of animals that could be grazed by about 12 to 15 head. This could result in about 10 percent less income generation from this allotment.

The acreage that would be withdrawn from future mineral leasing (1,040 acres), is an insignificant portion of the 4 million acres of federal mineral estate in the CFO. Because the value of mineral products varies greatly depending on market conditions, it is not possible to estimate the value of lost fluid minerals revenues from this estate, but it would be very small compared to the district's overall resource. Existing leases would be managed as they are currently. If future applications are made for drilling on existing leases, conditions of approval may slightly increase future development costs or constrain development on five leases.

4.11.2.2 No Action Alternative

Under the No Action Alternative, no land would be exchanged, and consequently the leases, ROW, and existing uses of the subject lands would remain unchanged. No socioeconomic effects would occur from the continuation of existing management.

4.11.2.3 Cumulative Impacts

It is possible in the future that there may be some fluid mineral leasing or oil and gas development in the vicinity of the subject lands. It is unlikely that this development would change grazing in those areas. Due

to the absence of impacts under the Proposed Alternative, impacts would most likely be caused by the mineral development activities. Cumulative impacts, therefore, are considered nonexistent.

4.12 ENVIRONMENTAL JUSTICE

4.12.1 Evaluation Criteria

To comply with EO 12898, the most recent information available on ethnicity and poverty status in the ROI have been examined and compared to state and national statistics to determine if the Proposed Action could disproportionately affect any minority or low-income groups. If any resource impacts had been identified, an analysis of the potential for disproportionately high and adverse impacts to minority and low-income populations would be conducted, comparing the demographics of the affected area to those of the region of comparison.

4.12.2 Impacts

4.12.2.1 Proposed Action

No significant environmental impacts would result under the Proposed Action. Therefore, there is no potential to adversely affect either the populations as a whole or any minority or low-income persons. Particular economic effects to two ranches could result.

Effects from withdrawal of 1,040 acres from future mineral development is not expected to affect local employment or earnings. Therefore, no impact to persons of low-income or minority status would result.

Protection of Children. Due to the absence of schools or housing on the subject lands, no adverse impacts to children resulting from the implementation of the Proposed Action are expected.

4.12.2.2 No Action Alternative

No environmental justice considerations arise from the continuation of existing conditions, because local minority and low-income population demographics are expected to persist under the No Action Alternative.

4.12.2.3 Cumulative Impacts

No cumulative adverse affects on human activities area expected. Community cohesion would not be affected by the land exchange, and no relocations would be required. Conditions that affect minority or low-income persons disproportionately would not be present.

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6.0 Persons and Agencies Contacted

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Britt, Susan. Range Management Specialist, Bureau of Land Management. Personal communication with Heather Gordon and Susan Goodan, SAIC. October through November 2001

Connelly, Deann. City Planner, City of Artesia. Personal communication with David Dean, SAIC. October 23, 2001.

Garcia, Dennis. Public Lands Resource Director, New Mexico State Lands Office. Personal communication with Heather Gordon, SAIC. October 23, 2001.

Hays, B.C. Assistant Chief, Conservation Services Division, New Mexico Department of Game and Fish, Santa Fe, New Mexico. Personal communication with Chuck Burt, SAIC. October 18, 2001.

Heath, Tom. Facilities Manager, FLETC Special Training Complex. Personal communication with Susan Goodan, SAIC. September through October 2001.

Hougland, Clarence. Realty Specialist, Bureau of Land Management, New Mexico State Office. Personal communication with Susan Goodan, SAIC. November 2001 through January 2002.

Lara, Joe. Petroleum Engineer, Bureau of Land Management, Carlsbad Field Office. Personal communication with Susan Goodan, SAIC. October 24, 2001.

McGee, Michael. Solid Mineral Geologist, Bureau of Land Management, Carlsbad Field Office. February 2002.

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Sherman, J. Biologist, Bureau of Land Management, Carlsbad Field Office, Carlsbad, New Mexico, Personal communication with Chuck Burt, SAIC. October 10, 2001.

Sivinski, R. Botanist, New Mexico Forestry Division, Santa Fe, New Mexico. Personal communication (letter) with Susan Goodan, SAIC. September 24, 2001.

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7.0 List of Preparers

Robin Brandin, A.I.C.P., Senior Program Manager, SAIC
M.R.C.P., City and Regional Planning, 1974
B.A., History of Art, 1971
Years of Experience: 26

Charles Burt, Senior Ecologist, SAIC
M.S., Forest Zoology, 1973
B.S., Biology, 1968
Years of Experience: 27

Jonathan Cohen, Document Production, SAIC
B.A., Communication Arts, 1983
Year of Experience: 6

David Dean, Biologist and Environmental Technician, SAIC
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Years of Experience: 3

Ellen Dietrich, Environmental Analyst, SAIC
B.A., Anthropology, 1971
Years of Experience: 24

Claudia Druss, RPA, Senior Archaeologist, SAIC
M.A., Anthropology, 1980
B.A., 1977
Year of Experience: 21

Susan Goodan, Environmental Planner and Project Manager, SAIC
M., Architecture, 1988
B.A., Philosophy/Archaeology, 1975
Years of Experience: 12

Heather Gordon, GIS Specialist, SAIC
B.A., Environmental Studies & Planning, 1996
Years of Experience: 4

Robert Kelly, Senior Scientist and Quality Control Officer, SAIC
Ph.D., Zoology/Ecology, 1971
B.S., Biology, 1966
Years of Experience: 31

Appendix A
Agency Correspondence

Draft EA Distribution List

Mr. Dan Malanchuk
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Regulatory Field Office
P.O. Box 6096
Fort Bliss, TX 79906-0096

Dr. Joy E. Nicholopoulous
Field Supervisor
U.S. Fish and Wildlife Service
Ecological Services Field Office
2105 Osuna Road, Northeast
Albuquerque, NM 87113

Mr. Rob Lawrence
U.S. Environmental Protection Agency
Region 6 (6EN-XP)
Office of Planning and Coordination
1445 Ross Avenue
Dallas, TX 75202-2733

Mr. Garth Grizzle
District Conservationist
Natural Resource Conservation Service
3105 West Main Street
Artesia, NM 88210-3105

Mr. Tod Stevenson
Division Chief
New Mexico Department of Game and Fish
Conservation Services Division
P.O. Box 25112
Santa Fe, NM 87504

Mr. Robert Sivinski
Botanist
Forestry Division
Energy, Minerals, and
Natural Resources Department
P.O. Box 1948
Santa Fe, NM 87504-1948

Ms. Jan Biella
Deputy State Historic Preservation Officer
New Mexico State Historic Preservation Bureau
228 East Palace Avenue, Room 320
Santa Fe, NM 87501

Mr. Stephen Massey
Eddy County Manager
101 West Greene Street, Suite 225
Carlsbad, NM 88220

Ms. DeAnne Connelly
City Planner
City of Artesia
511 West Texas Street
P.O. Box 1310
Artesia, NM 88211-1310

Mr. Mack Chase
Mr. Ray Eller

September 20, 2001

Recipient/Address

Dear Recipient:

The Department of the Treasury's Federal Law Enforcement Center (FLETC) is preparing an environmental assessment (EA) for a proposed land acquisition for its Special Training Complex at its facility in Artesia, Eddy County, New Mexico. The U.S. Army Corps of Engineers, Albuquerque District, has engaged Science Applications International Corporation (SAIC), to assist in the preparation of the EA. The environmental analysis is being conducted in accordance with the Council on Environmental Quality guidelines pursuant to the National Environmental Policy Act of 1969. The proposal includes exchange of land between the State of New Mexico (State Land Office) and the Bureau of Land Management (BLM), who are cooperating agencies in this process.

In accordance with Executive Order 12372, Intergovernmental Review of Federal Programs, we request your participation by reviewing a brief description of the proposal (provided in Attachment 1) and providing input on issues that should be addressed in the assessment. Maps in Attachment 2 show the location and ownership status of the subject lands. A list of federal, state, and local agencies that have been contacted is also attached (Attachment 3). Your input is needed by October 22, 2001, and will be used to focus analysis on relevant issues. If there are any additional agencies that you feel should review and comment on the proposal, please feel free to include them in your distribution of this letter and attached material. It is anticipated that the Draft EA will be prepared and distributed for review in mid-December, 2001.

Any questions concerning the proposal and comments can be directed to me at (505) 842-7932. Please forward your written comments to me at: 2109 Air Park Road, SE, Albuquerque, New Mexico 87106, or by email to susan.m.goodan@saic.com. Thank you for your assistance.

Sincerely,
Science Applications International Corporation

Susan Goodan
SAIC Project Manager

Attachments:
1. Project Description
2. Location map
3. Distribution list

ATTACHMENT 1

Project Description

The Department of the Treasury's Federal law Enforcement Center (FLETC) currently provides law enforcement training programs at its Special Training Complex in Artesia, New Mexico. The complex is used to provide firearms and driver training to law enforcement personnel. The complex is located north of the Artesia Municipal Airport. The Department of the Treasury owns 1,040 acres of this land. An additional 240 acres of New Mexico state-owned land (in Section 33 and 34, see below) is leased to FLETC for use as an ammunition safety zone and 240 acres of Bureau of Land Management (BLM) land has a right-of-way (ROW) issued to FLETC. FLETC is in need of additional land for downrange safety fans for its firearms training ranges.

Under the proposal, the State of New Mexico is offering 440 acres (and the mineral estate) to the BLM in exchange for lands of equal value. BLM has selected 640 acres lands located about nine miles to the west and would exchange all or a portion of this land (of equivalent value) to the State. After the exchange, BLM would transfer 1,280 acres (and mineral estate) to FLETC, comprised of parcels that are wholly or partially within the current safety fan, increasing their land holding to 2,320 acres. Attachment 2 shows the current and ultimate status of the subject lands. The acres and associated legal descriptions of these lands are described below. No construction or change in use of any of the subject lands is currently proposed or planned.

State land	T.16S,R 25E,	S.27, E2SE (80 acres)	Exchange w/ BLM; BLM to transfer to FLETC
		S 28, E2NE (80 acres)	Exchange w/ BLM, BLM to transfer to FLETC
		S.28, NESE (40 acres)	Exchange w/ BLM; BLM to transfer to FLETC
		S 33, E2NE (80 acres)	Exchange w/ BLM; BLM to transfer to FLETC
		S 34, NW (160 acres)	Exchange w/ BLM; BLM to transfer to FLETC
BLM land	T.16S, R.25E,	S 27, N2 (320 acres)	BLM land transfer to FLETC
		S.27, SW (160 acres)	BLM land transfer to FLETC
		S.27, W2SE (80 acres)	BLM land transfer to FLETC
	T.16S, R.25E,	S.28, SESE (40 acres)	BLM land transfer to FLETC
	T 17S, R 24E,	S 2, (640 acres, portion)	BLM selected land exchanged to State
	T.17S, R.25E,	S.3, NW (160 acres)	ROW land to be transferred to FLETC
		S 3, N2N2S2 (80 acres)	ROW land to be transferred to FLETC
FLETC land	T 17S, R 25E,	S.3, W2NE	FLETC (Dept of Treasury) land
		S 4, NE (160 acres)	FLETC (Dept of Treasury) land
	T 16S, R 25E,	S 33, SE (160 acres)	FLETC (Dept of Treasury) land
		S.34, S2 (320 acres)	FLETC (Dept of Treasury) land
		S 34, NE (160 acres)	FLETC (Dept of Treasury) land
		S 35, S2S2 (160 acres)	FLETC (Dept of Treasury) land

ATTACHMENT 2

Figures 1 and 2 showing Location and Land Status of Subject Lands

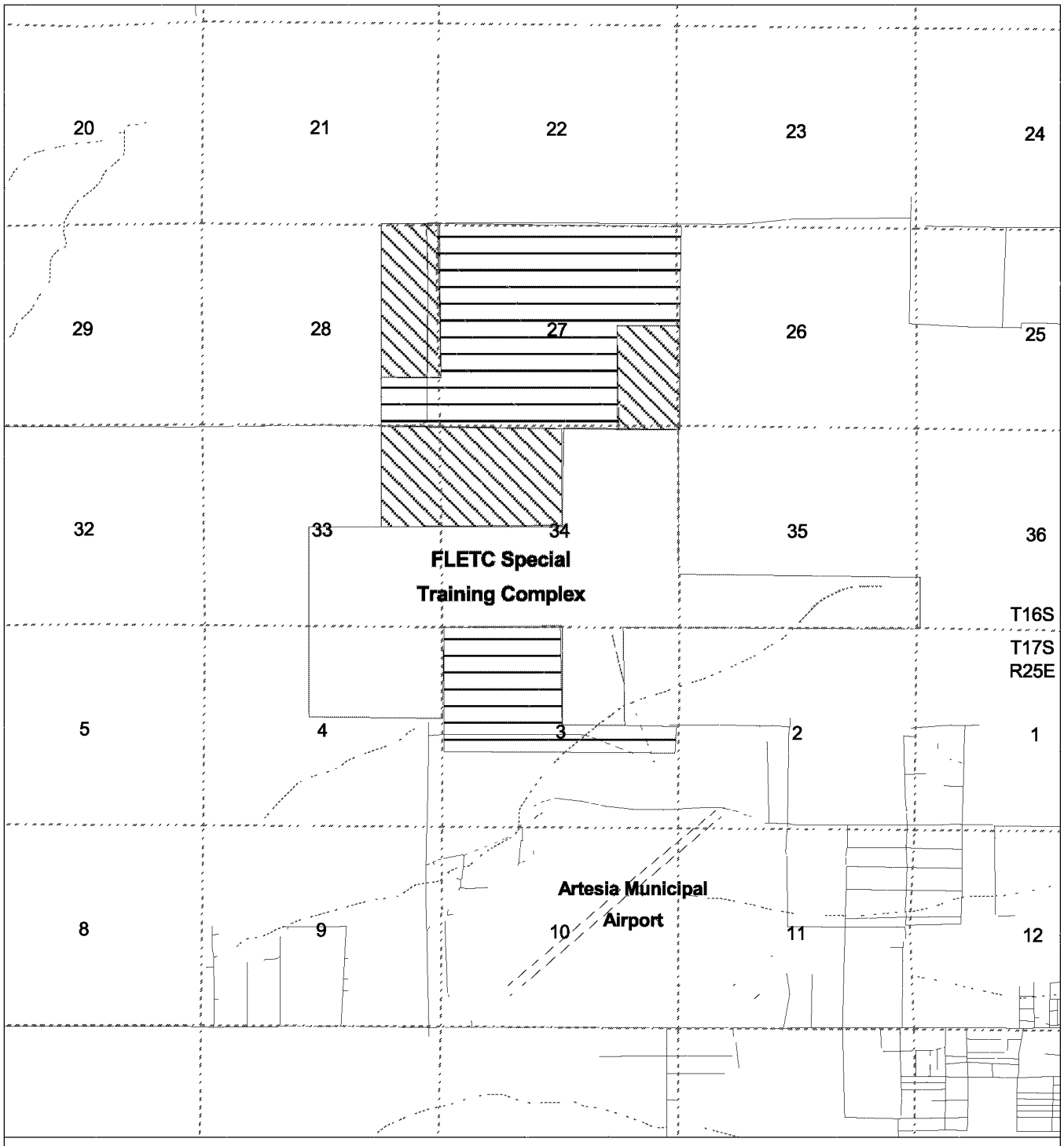
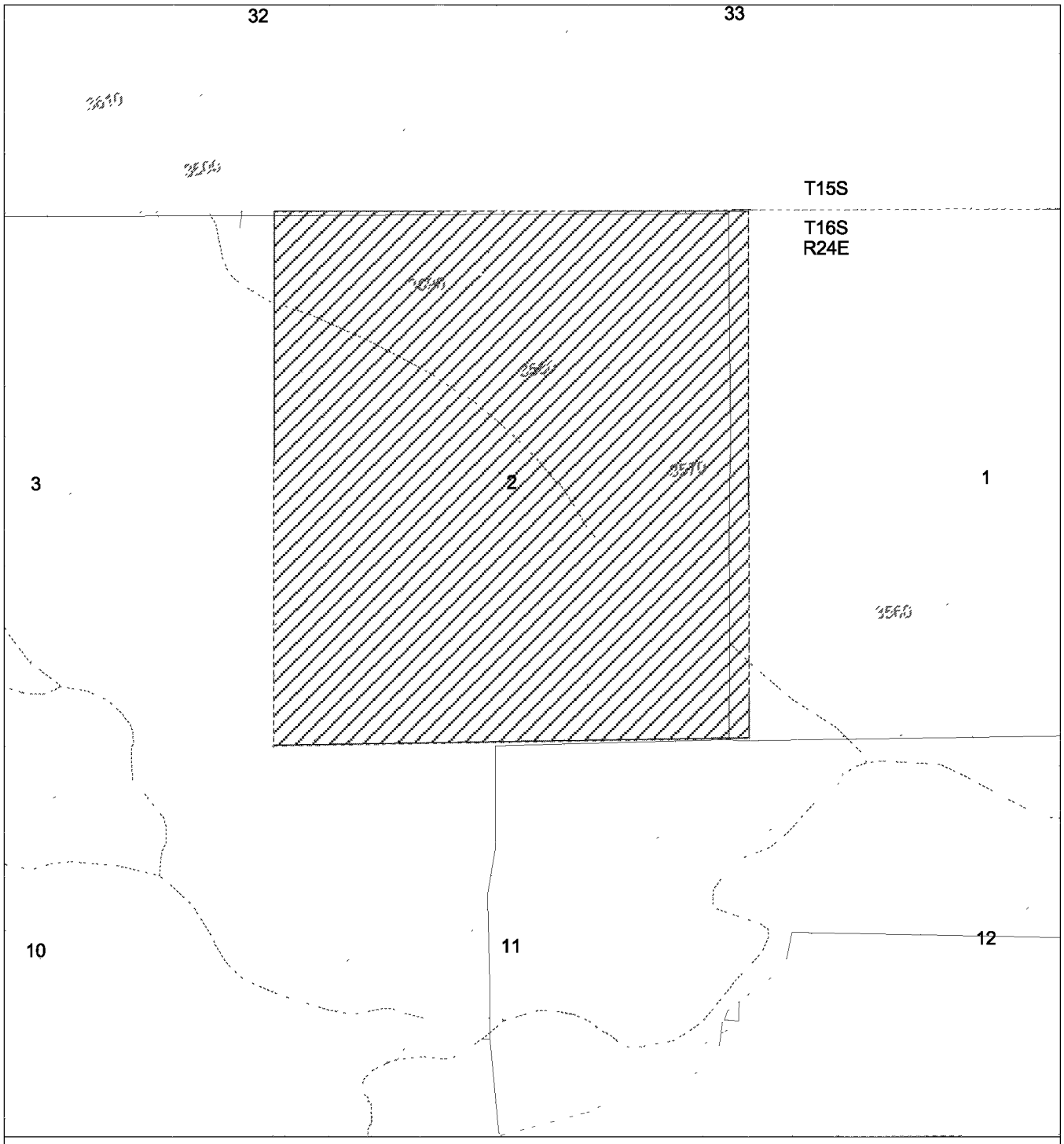


Figure 1: Location of Federal Law Enforcement and Proposed Acquisition Lands

SOURCE: COE, Albuquerque District



LEGEND

Ultimate Land Disposition

Exchanged to State (portions)

Current Ownership of Subject Land

BLM

PLSS

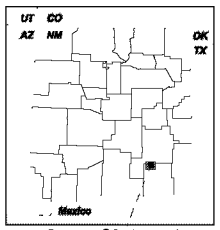
Stream/Arroyo

10 Foot Contour Interval

Road

0.25 0 0.25

Scale in Miles



Area of Interest

SOURCE: COE, Albuquerque District

Figure 2: BLM Lands Selected for Exchange to the State of New Mexico

ATTACHMENT 3

Agency Distribution List

Mr. Dan Malanchuk
U.S. Army Corps of Engineers
Regulatory Field Office
P.O. Box 6096
Fort Bliss, TX 79906-0096

Dr. Joy E Nicholopoulous
Field Supervisor
U.S. Fish and Wildlife Service
Ecological Services Field Office
2105 Osuna Road, Northeast
Albuquerque, NM 87113

Mr. Rob Lawrence
U.S. Environmental Protection Agency
Region 6 (6EN-XP)
Office of Planning and Coordination
1445 Ross Avenue
Dallas, TX 75202-2733

Mr. Garth Grizzle
District Conservationist
Natural Resource Conservation Service
3105 West Main Street
Artesia, NM 88210-3105

Mr. Tod Stevenson
Division Chief
New Mexico Department of Game and Fish
Conservation Services Division
P.O. Box 25112
Santa Fe, NM 87504

Mr. Robert Sivinski
Botanist
Forestry Division
Energy, Minerals, and
Natural Resources Department
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Santa Fe, NM 87504-1948

Ms. Jan Biella
Deputy State Historic Preservation Officer
New Mexico State Historic Preservation
Bureau
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Santa Fe, NM 87501

Mr. Stephen Massey
Eddy County Manager
101 West Greene Street, Suite 225
Carlsbad, NM 88220

Ms. DeAnne Connelly
City Planner
City of Artesia
511 West Texas Street
P.O. Box 1310
Artesia, NM 88211-1310

Memorandum

2109 Air Park Rd., SE
Albuquerque, NM 87106

To: Distribution

From: Susan Goodan, SAIC

CC: Julie Hall, COE Albuquerque

Date: 10/03/01

Re: Information Correction-Federal Law Enforcement Training Center Land Transfer

---

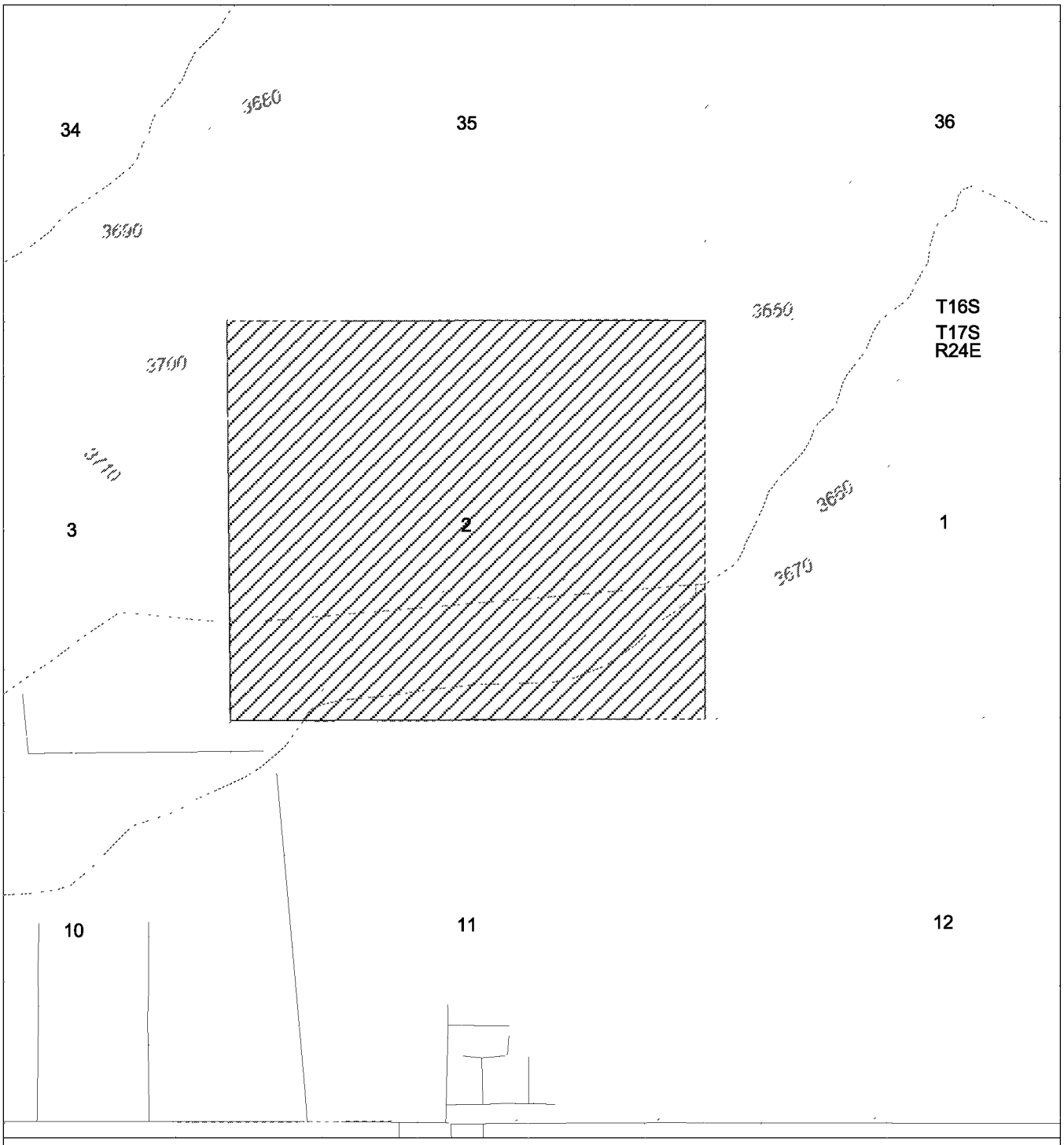
This memo clarifies and corrects information in a letter sent to you on September 20, 2001, concerning an Environmental Assessment for a proposed land transfer for the Federal Law Enforcement Training Center (FLETC) in Artesia, New Mexico.

Specifically, the written legal descriptions in the September 20 package were correct, but the location shown in Figure 2 was incorrect. The attached Figure 2 replaces the one previously provided. Also, the project description indicated that there would be no change in use or construction. In fact, grazing on 880 acres would not continue after the land transfer. Also, up to 7.5 miles of perimeter fencing would be installed around lands transferred to the FLETC and around FLETC land in Township 16 South, Range 25 East, Section 35.

Please consider these corrections in any input you may provide on this project. For agencies that have already responded, I will assume that these changes would not change your comments if I do not hear otherwise before October 26, 2001. You can call me at (505) 842-7932, or email to susan.m.goodan@saic.com. Thank you for your considerations.

Attachment (1)

CC: Dan Malanchuk, COE Fort Bliss
Joy Nicholopoulous, USFWS
Rob Lawrence, USEPA Region 6
Garth Grizzle, NRCS
Tod Stevenson, NMDGF
Robert Sivinski, NMEMNRD
Jan Biella, NM SHPO
Stephen Massey, Eddy County
DeAnne Connelly, City of Artesia



LEGEND

Ultimate Land Disposition

Exchanged to State (portions)

Current Ownership of Subject Land

BLM

PLSS

Stream/Arroyo

10 Foot Contour Interval

Road

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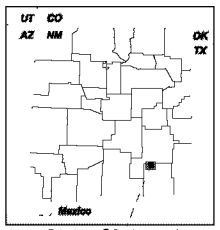
Scale in Miles



Area of Interest

SOURCE: COE, Albuquerque District

Revised Figure 2: BLM Lands Selected for Exchange to the State of New Mexico

Goodan, Susan M.

From: Sivinski, Robert [BSIVINSKI@state.nm.us]
Sent: Monday, September 24, 2001 4:06 PM
To: 'susan.m.goodan@saic com'
Subject: FLETC

Susan:

The NM Forestry Division is not aware of any rare or endangered plant species on the proposed FLETC Special Training Complex or the BLM exchange land If there are exposed gypsum strata on these sites, there may be potential habitat for the endangered Eriogonum gypsophilum (gypsum wild buckwheat) or Amsonia tharpii (Tharp's bluestar), a federal species of concern

Robert Sivinski
NM Forestry Division

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New Mexico Ecological Services Field Office
2105 Osuna NE
Albuquerque, New Mexico 87113
Phone: (505) 346-2525 Fax: (505) 346-2542

September 28, 2001

Cons. # 2-22-01-I-696

Susan Goodan, SAIC Project Manager
Science Applications International Corporation
2109 Air Park Road S.E.
Albuquerque, New Mexico 87401

Dear Ms. Goodan:

This responds to your September 17 and 20, 2001, letters requesting information on threatened or endangered species or important wildlife habitats that could be affected by the proposed land acquisition for the Special Training Complex near Artesia, Eddy County, New Mexico.

We have enclosed a current list of federally-endangered, threatened, candidate species, and species of concern that may be found in the project areas. Additional information about these species is available on the Internet at <http://nmnhp.unm.edu/bisonm/bisonm.cfm>, <http://nmrareplants.unm.edu>, and <http://ifw2es.fws.gov/endangeredspecies>. Under the Endangered Species Act, as amended (Act), it is the responsibility of the Federal action agency or its designated representative to determine if a proposed action "may affect" any threatened, endangered, or proposed species, or critical habitat, and if necessary, to consult with us further. If your action area has suitable habitat for any of these species, we recommend that species-specific surveys be done during the appropriate flowering or breeding season to evaluate any possible project-related impacts.

Candidates and species of concern have no legal protection under the Act and are included in this document for planning purposes only. We are required to monitor the status of these species. If significant declines are detected, these species could potentially be listed as endangered or threatened. Therefore, actions that may contribute to their decline should be avoided. We recommend that candidates and species of concern be included in your surveys.

Under Executive Order 11990, Federal agencies are required to minimize the destruction, loss, or degradation of wetlands, and preserve and enhance their natural and beneficial values. We recommend you contact the U.S. Army Corps of Engineers for permitting requirements under Section 404 of the Clean Water Act if your proposed action could impact wetlands. These habitats should be conserved through avoidance, or mitigation should occur to ensure no net loss of wetlands functions and values.

The Migratory Bird Treaty Act (MBTA) prohibits the taking of migratory birds, nests, and eggs, except as permitted by the U.S. Fish and Wildlife Service. To minimize the likelihood of adverse impacts to all birds protected under the MBTA, we recommend construction activities occur outside the general migratory bird nesting season of March through August, or that areas proposed for construction during the nesting season be surveyed, and if necessary, avoided until nesting is complete.

Please keep in mind that the scope of federally-listed species compliance also includes any interrelated or interdependent project activities (e.g., equipment staging areas, offsite borrow material areas, or utility relocations) and any indirect and cumulative effects.

If you have any questions regarding this information, please contact Santiago R. Gonzales at the letterhead address or at (505) 346-2525, ext. 136.

Sincerely,

Joy E. Nicholopoulos

Joy E. Nicholopoulos
Field Supervisor

Enclosure

cc: (w/o enc)
Director, New Mexico Department of Game and Fish, Santa Fe, New Mexico
Director, New Mexico Energy, Minerals, and Natural Resources Department, Forestry Division, Santa Fe, New Mexico

Threatened, Endangered, Candidate Species, and
Species of Concern in Eddy County, New Mexico
September 27, 2001

Eddy

Big free-tailed bat, Nyctinomops macrotis (=Tadarida m., T. molossa), SC
Black-footed ferret, Mustela nigripes, E**
Black-tailed prairie dog, Cynomys ludovicianus, C
Cave myotis, Myotis velifer, SC
Fringed myotis, Myotis thysanodes, SC
Gray-footed chipmunk, Tamias canipes, SC
Guadalupe southern pocket gopher, Thomomys umbrinus guadalupensis, SC
Occult little brown bat, Myotis lucifugus occultus, SC
Townsend's big-eared bat, Corynorhinus townsendii, SC
Western red bat, Lasiurus blossevillii, SC
Pecos River muskrat, Ondatra zibethicus ripensis, SC
Swift fox, Vulpes velox, SC
American peregrine falcon, Falco peregrinus anatum, SC
Arctic peregrine falcon, Falco peregrinus tundrius, SC
Baird's sparrow, Ammodramus bairdii, SC
Bald eagle, Haliaeetus leucocephalus, T
Black tern, Chlidonias niger, SC
Ferruginous hawk, Buteo regalis, SC
Interior least tern, Sterna antillarum, E
Loggerhead shrike, Lanius ludovicianus, SC
Mexican spotted owl, Strix occidentalis lucida, T
Northern aplomado falcon, Falco femoralis septentrionalis, E
Northern goshawk, Accipiter gentilis, SC
Western burrowing owl, Athene cunicularia hypugaea, SC
White-faced ibis, Plegadis chihi, SC
Lesser prairie chicken, Tympanuchus pallidicinctus, C
Yellow-billed cuckoo, Coccyzus americanus, SC
Blue sucker, Cycleptus elongatus, SC
Headwater catfish, Ictalurus lupus, SC
Pecos bluntnose shiner, Notropis simus pecosensis, T w/CH
Pecos gambusia, Gambusia nobilis, E
Pecos pupfish, Cyprinodon pecosensis, SC
Plains minnow, Hybognathus placitus*, SC
Rio Grande shiner, Notropis jemezanus, SC
Sand dune lizard, Sceloporus arenicolus, SC
Texas horned lizard, Phrynosoma cornutum, SC
limestone tiger beetle, Cicindela politula petrophila, SC
Mescalero Sands tiger beetle, Cicindela formosa rutilovirescens, SC
Mescalero Sands June beetle, Polyphylla mescalerensis, SC
Ovate vertigo (snail), Vertigo ovata, SC
Pecos springsnail, Pyrgulopsis pecosensis, SC

Texas hornshell (mussel), Popenaias popei, SC
Few-flowered jewelflower, Streptanthus sparsiflorus, SC
Glass Mountain coral-root, Hexalectris nitida, SC
Guadalupe rabbitbrush, Chrysothamnus nauseosus var. texemsis, SC
Gypsum wild-buckwheat, Eriogonum gypsophilum, T w/CH
Kuenzler hedgehog cactus, Echinocereus fendleri var. Kuenzleri, E
Lee pincushion cactus, Coryphantha sneedii var. leei, T
Mat leastdaisy, Chaetopappa hersheyi, SC
Tharp's blue-star, Amsonia tharpii, SC
Wright's water-willow, Justicia wrightii, SC

Index

E	=	Endangered (in danger of extinction throughout all or a significant portion of its range).
PE	=	Proposed Endangered
PE w/CH	=	Proposed Endangered with critical habitat
T	=	Threatened (likely to become endangered within the foreseeable future throughout all or a significant portion of its range).
PT	=	Proposed Threatened
PT w/CH	=	Proposed Threatened with critical habitat
PCH	=	Proposed critical habitat
C	=	Candidate Species (taxa for which the Service has sufficient information to propose that they be added to list of endangered and threatened species, but the listing action has been precluded by other higher priority listing activities).
S/A	=	Similarity of Appearance
†	=	May occur in this county from re-introductions in Colorado
*	=	Introduced population
XN	=	Nonessential experimental
**	=	Survey should be conducted if project involves impacts to prairie dog towns or complexes of 200-acres or more for the Gunnison's prairie dog (Cynomys gunnisoni) and/or 80-acres or more for any subspecies of Black-tailed prairie dog (Cynomys ludovicianus). A complex consists of two or more neighboring prairie dog towns within 4.3 miles (7 kilometers) of each other.
***	=	Extirpated in this county

DEPARTMENT OF THE ARMY
ALBUQUERQUE DISTRICT, CORPS OF ENGINEERS
EL PASO REGULATORY OFFICE
P.O. BOX 6096
FORT BLISS, TEXAS 79906-0096
FAX (915) 568-1348

September 27, 2001

REPLY TO
ATTENTION OF

Operations Division
Regulatory Branch

Susan Goodan
Science Applications International Corp.
2109 Air Park Road S.E.
Albuquerque, NM 87106

Dear Ms. Goodan:

This is in reference to your September 20, 2001 letter regarding the jurisdictional status of lands being acquired for the Treasury's Federal Law Enforcement Center (FLETC) near Artesia, Eddy County, New Mexico. (Action No. 2001 00643).

We have evaluated the information you have provided and studied the project description, other records, and documents available to us. It appears that waters of the United States are located within the project site, specifically in Section 35, Township 16 South, Range 25 East. However, since the proposed land acquisition does not involve the placement of dredged or fill material into these waters, it is not regulated under the provisions of Section 404 of the Clean Water Act and a Department of the Army permit will not be required.

This determination will be valid for 2 years from the date of this letter unless new information warrants revision of the determination within that time.

If you have any questions please feel free to write or call me at (915) 568-1359 or e-mail me at daniel.malanchuk@usace.army.mil.

Sincerely,

Daniel Malanchuk
Chief, El Paso Regulatory Office

Copy furnished:
CESPA-OD-R-EP

UNITED STATES DEPARTMENT of AGRICULTURE

NATURAL RESOURCES CONSERVATION SERVICE

Artesia Field Office
3105 West Main
Artesia, NM. 88210
(505) 746-4121

Sub: Dept. of the Treasury's Federal Law Enforcement Center Environmental Assessment

Date: 10/09/01

To: Susan Goodan
SAIC Project Manager

Enclosed please find the non-technical soil descriptions for the major soils found in the area proposed for the land acquisition by FLETC.

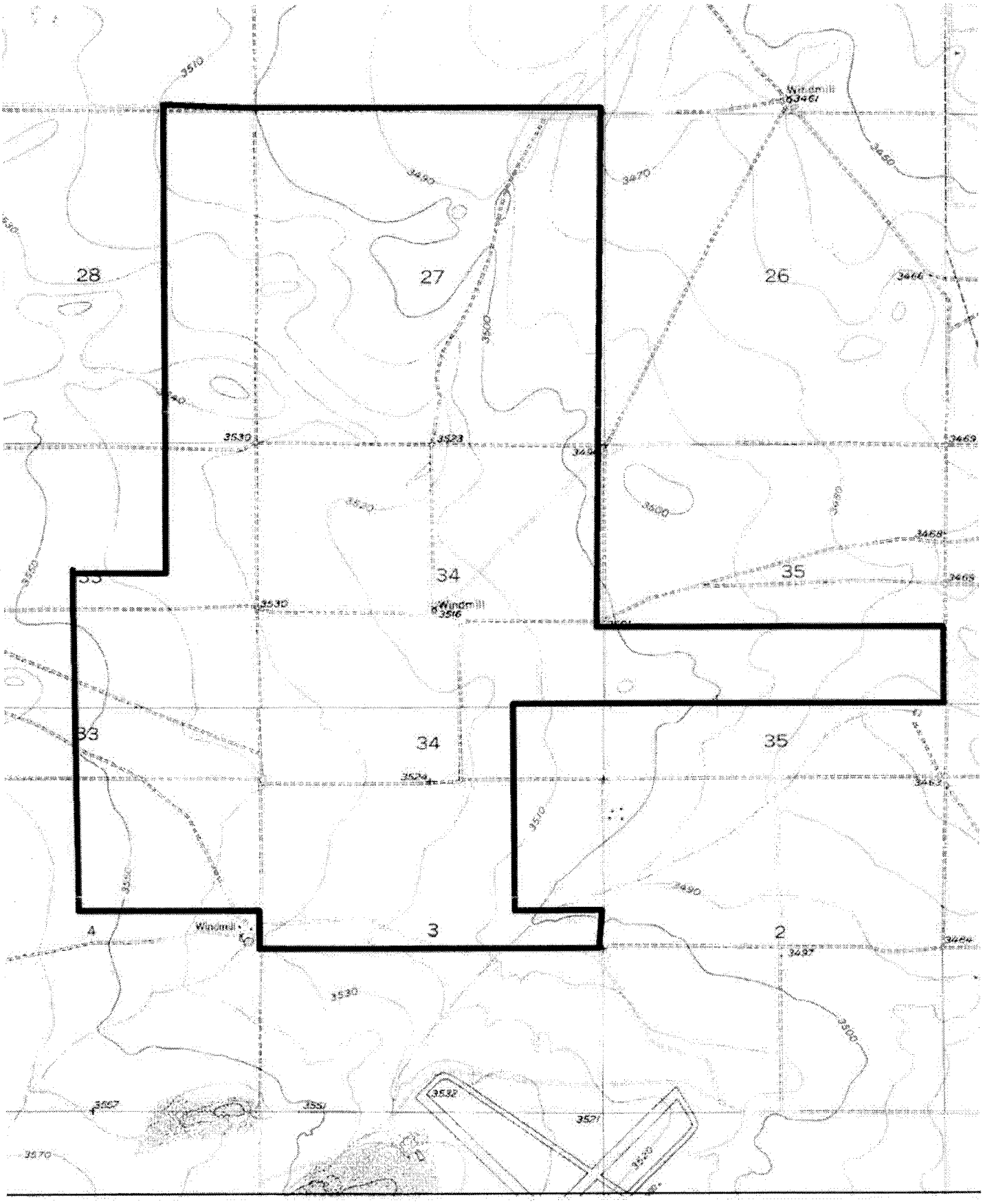
Your letter did not give many details as to what the long-term use of the land would be. At the present time the land use is rangeland. The wildlife value of the land is minimal. There is little potential for the area to be farmed. The soils would be suitable, but there are no water rights associated with the land.

Soils in the area will present little problems for the construction of building etc.

The land acquisition should have little impact on the farming or ranching industry of the area.

If I can be of further assistance to you concerning this matter please let me know

Garth Grizzle
District Conservationist



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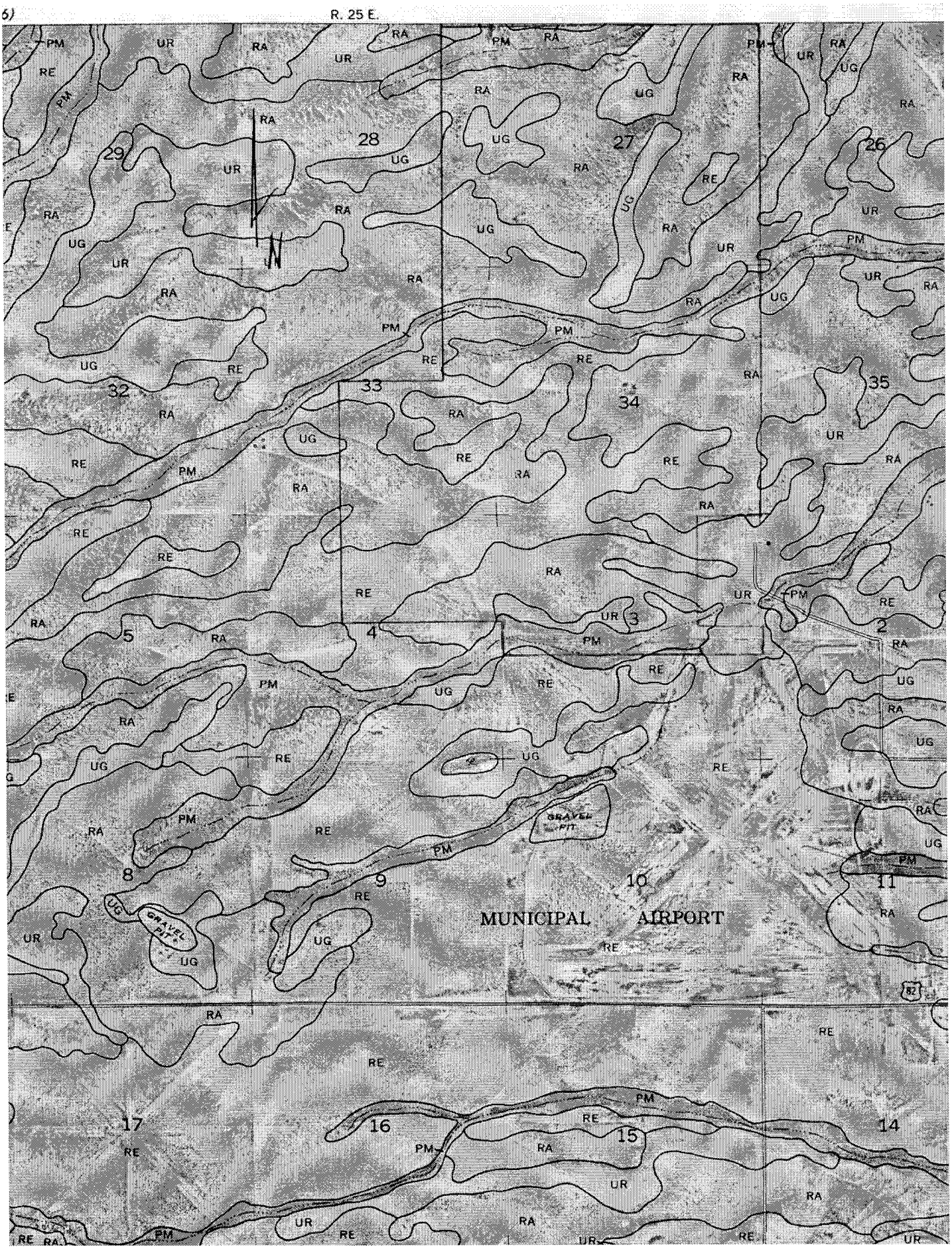
Date: 10/1/2001
Scale: 1 inch equals 2000 feet

Location: 032° 52' 47.7" N 104° 28' 10.5" W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Non-Technical Descriptions

Soil Survey Area: 614 EDDY AREA, NEW MEXICO

Map unit: *RA* Reagan loam, 0 to 3 percent slopes

Description Category: **AGR**

SOIL DEPTH - DEEP, SOIL DRAINAGE - WELL DRAINED, SURFACE LAYER - LOAM 8 INCHES THICK, SUBSOIL LOAM - 24 INCHES THICK, SUBSTRATUM - CLAY LOAM TO A DEPTH OF 60 INCHES, PERMEABILITY - MODERATELY SLOW, AWC - HIGH, EFFECTIVE ROOTING DEPTH - 60 INCHES OR MORE, WATER EROSION HAZARD - SLIGHT, SOIL BLOWING - MODERATE, CAPABILITY SUBCLASS 2e(IRR), 7c(NIRR), T-5, WEG-4L, I-86, LIMITATIONS - CALCIUM CARBONATE IN LOWER HORIZONS

Map unit: *RE* Reagan-Upton association, 0 to 9 percent slopes

Description Category: **AGR**

REAGAN SOIL DEPTH - DEEP, SOIL DRAINAGE - WELL DRAINED; SURFACE LAYER - LOAM 8 INCHES THICK; JSUBSOIL - LOAM 24 INCHES STHICK, SUBSSTRATUM - CLAY LOAM TO A DEPTH OF 60 INCHES, PERMEABILITY - MODERATELY SLOW, AWC - HIGH; EFFECTIVE ROOTING DEPTH - 60 INCHES OR MORE, WATER EROSION HAZARD - SLIGHT, SOIL BLOWING HAZARD - MODERATE, CAPABILITY SUBCLASS 2e(IRR), 7c(NIRR), T-5; WEG-4L, I-86 UPTON· SOIL DEPTH - SHALLOW, SOIL DRAINAGE - WELL DRAINED, SURFACE LAYER - GRAVELLY LOAM 3 INCHES THICK, SUBSURFACE - GRAVELLY LOAM TO A DEPTH OF 9 INCHES, PERMEABILITY - MODERATE, AWC - VERY LOW; EFFECTIVE ROOTING DEPTH - LESS THAN 20 INCHES, WATER EROSION HAZARD - SLIGHT, SOIL BLOWING HAZARD - MODERATE, CAPABILITY SUBCLASS 7s(IRR), 7e(NIRR); T-1, WEG-5, I-56; LIMITATIONS - DEPTH TO INDURATED CALICHE LESS THAN 20 INCHES

Non-Technical Descriptions

Soil Survey Area: 614 EDDY AREA, NEW MEXICO

Map unit: *PM* Pima silt loam, 0 to 1 percent slopes

Description Category: **AGR**

Pima silt loam, 0 to 1 percent slopes Soil Depth- Deep, Soil drainage- Well drained, Surface layer- silt loam 3 inches thick Subsoil- silty clay loam 17 inches thick Substratum - silty clay loam to depth of 60 inches Permeability is moderately slow AWC - High, Effective Rooting Depth - 60 inches or more; water erosion hazard - moderate, Capability subclass IIs-1 (irr), VIs-4 (Nirr), T - 5, WEG - 4L, I - 86 The soil is fertile Limitations- subject to periodic flooding

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

OCT 22 2001

Susan Goodan
SAIC Project Manager
2109 Air Park Road, S.E.
Albuquerque, NM 87106

Subjects: Special Training Complex Land Exchange
Artesia, Eddy County, New Mexico

Dear Ms. Goodan:

Thank you for your letter, dated September 20, to the U.S. Environmental Protection Agency (EPA), Region 6, requesting comments and available information on the subject project. Your package was received by the Office of Planning and Coordination and I am pleased to provide the following in response to your request.

EPA understands SAIC has been retained by the U.S. Army Corps of Engineers to assist in the preparation of an Environmental Assessment (EA) evaluating the potential impacts of the proposed action. Our office receives from 30-50 letters each month requesting input to EAs. Limited resources and statutory regulations do not allow our office the opportunity to thoroughly evaluate each of these EA actions. Nevertheless, we are hopeful our input on environmental issues to be addressed will help minimize adverse effects, and in particular, help to reduce cumulative adverse impacts on the more sensitive resource areas.

Regarding construction, efforts should be taken to minimize "non-point sources" of pollution that may enter surface waters. These include water that runs off during rainstorms that may contain metals, oil, grease, and other equipment fluids, as well as the runoff from agricultural fields may contain animal waste, fertilizers, and pesticides. Reducing the potential for these contaminants to enter surface waters (e.g., through the implementation of best management practices to control erosion at construction sites), makes a substantial contribution to improving water quality. EPA's National Pollutant Discharge Elimination System (NPDES) storm water general permit may be applicable to projects with construction sites that affect a minimum of five acres. For additional information on this NPDES general permit, contact Taylor Sharpe, EPA Region 6 Storm Water Team, at (214) 665-7495.

Any activity that releases materials into the air affects air quality. Using the proper equipment and using it correctly with the appropriate pollution controls, including vehicles, reduces particulates into the air. The Clean Air Act restricts the use, emission and disposal of ozone-depleting chemicals such as chlorofluorocarbons (CFCs, also know as Freons) and other chlorine- and bromine-containing compounds. CFCs are commonly used in refrigerators and air conditioners. For additional information, contact Jole Leuhrs, Chief of the Air Permits Section, at (214) 665-7250.

Clean up of the construction site and proper waste disposal are also important. Today, landfill space is at a premium. Solid waste disposal options include not only recycling, but also incineration, source reduction, and biodegradation. Both hazardous and solid waste regulations prohibit disposal of hazardous waste in a landfill that is not specifically designed and permitted. Also, the volume of waste accepted is set in the terms of the landfill permit, usually as tons per month. Each of us is part of the problem as well as the solution, which is proper disposal. From gum wrappers to used cars, we exert our personal choices in what we purchase, how we use the product, and how we dispose of the waste. Although some people and companies illegally put hazardous waste in landfills, heavy penalties including fines and jail sentences make illegal disposal very unattractive. For additional information, contact Willie Kelley, Chief of the Solid Waste Section at (214) 665-6761.

The EPA and the U.S. Department of Energy (DOE) have a number of programs that offer assistance to the public, commercial, industrial and government sectors to create a better environment. Examples of these programs are: 1) Energy Star Buildings - how to construct a building with lower electrical consumption and how to retrofit a building; 2) Energy Star Homes - energy efficient homes that reduce electrical consumption by as much as half, at a cost of less than two percent on new construction homes; and 3) a DOE program to upgrade energy efficient residential building codes and standards. Enclosed are some related informational pamphlets and for questions on the EPA/DOE Energy Star program, contact Patrick Kelly at (214) 665-7316.

In addition to the above issues, to assist SAIC in conducting a thorough and objective evaluation of the environmental impacts (e.g., siting, permitting, and socioeconomics) of the subject proposals, a copy of EPA's Environmental Information Document (EID) Guidance Handbook is also enclosed.

Additional EPA publications are available at www.epa.gov/earth1r6/6en/xp/enxp4c.htm. I hope you find this information is helpful. If you have any questions, feel free to contact me at (214) 665-8150 or Joe Swick, of my staff, at (214) 665-7456.

Sincerely yours,

for Robert D. Lawrence, Chief
Office of Planning and
Coordination (6EN-XP)

Enclosures

Appendix B
Biological Survey Information

Table B-1. UTMs for Transects and Biological Resources—October 1-5, 2001 Field Trip, FLETC Project Area and the BLM Selected Land Area

UTMs		*Observation*
South	***East***	
October 1, 2001		
13 S 0548071	3638816	North end Transect 1, Section 33
0548139	3637204	South end Transect 1, Section 33
0548120	3637720	Burrowing owl
0548124	3637582	Potential burrowing owl burrow
0548146	3637345	Burrowing owl
0547991	3637198	Stick Nest #1
0547759	3637204	South end Transect 2, Section 33
0547814	3637971	North end Transect 2, Section 33
0547759	3637204	Loggerhead shrike
0547897	3637596	Stick Nest #2
0548011	3637531	Stick Nest #3
0547691	3637647	Swale on west side of study area
0548498	3637333	Swale on east side
0547740	3637801	Ball cactus (*Coryphantha vivipara*)
0548358	3637356	Stick Nest #4
0548490	3637215	South end Transect 3, Section 33
0548449	3638833	North end Transect 3, Section 33
0548448	3638296	Stick Nest #5
0548490	3627215	Loggerhead shrike
October 2, 2001		
0540685	3637130	North end Transect 1, Section 2
0540825	3635583	South end Transect 1, Section 2
0541114	3637169	North end Transect 2, Section 2
0541159	3635585	South end Transect 2, Section 2
0541515	3635607	North end Transect 3, Section 2
0541638	3637189	South end Transect 3, Section 2
0541124	3636779	Loggerhead shrike
0541090	3636378	Stick Nest #6
0541022	3636376	Stick Nest #7
0541093	3636050	Crossed old road. Marked as a drainage on USGS map.

UTMs		*Observation*
South	***East***	
0541144	3635151	Loggerhead shrike
0541430	3635556	Loggerhead shrike
0541955	3635668	Possible old prairie dog town
0541927	3635818	Loggerhead shrike
0542151	3636155	Dry stock tank
0541949	3636484	Stick Nest #8
0542024	3637050	Stick Nest #9
0541996	3637152	Stick Nest #10
0541587	3637055	Stick Nest #11
0541523	3637134	Stick Nest #12
0540703	3636589	Active burrow site
0540741	3636531	Potential cactus wren nest
0541771	3636134	Loggerhead shrike
October 3, 2001		
0548490	3636835	East end Transect 1, Section 4
0547797	3637002	West end Transect 1, Section 4
0548504	3636438	East end Transect 2, Section 4
0547697	3636460	West end Transect 2, Section 4
0547841	3636465	Juvenile horsecrippler cactus, Section 4
0549025	3637265	Series of badger-sized holes. One potential burrowing owl burrow.
0548875	3637213	South end Transect 1, Section 34
0548811	3638827	East end Transect 1, Section 34
0549255	3637216	South end of Transect 2, Section 34
0549346	3638026	Dead standing cottonwood tree. Stick Nest #13.
0549223	3638819	North end of Transect 2, Section 34
0549025	3637265	Potential burrowing owl burrow
0549617	3638819	South end Transect 3, Section 34
0549251	3638334	Earthen tank
0549521	3638257	Barried gas line
0549251	3638334	East end Transect 3, Section 34
0549255	3637216	South end Transect 4, Section 34
0549806	3638288	Stick Nest #14

UTMs		*Observation*
South	***East***	
0549748	3638319	Potential burrowing owl burrow
0549772	3638325	Potential burrowing owl burrow
0549700	3636904	East end Transect 1, Section 3
0548499	3636926	West end Transect 1, Section 3
0549710	3636507	East end Transect 2, Section 3
0549710	3636507	Small swale enters Section 3 from east
0549687	3636397	Swale leaves Section 3 at south boundary
0549423	3636595	Potential burrowing owl burrow
0549426	3636607	Potential burrowing owl burrow
0549457	3636592	Potential burrowing owl burrow
0549469	3636701	Potential burrowing owl burrow
0548504	3636657	West end Transect 2, Section 3
0548287	3636910	Tower 1
0548122	3636907	Tower 2
0547974	3637009	Tower 3
0547855	3636778	Tower 4
0547868	3636556	Tower 5
0548490	3636575	Tower 6
0548913	3638043	Stick Nest #15
0549267	3638362	Stick Nest #16
0548516	3637052	Stick Nest #17
October 4, 2001		
0549684	3640430	North end of Transect 2, Section 27
0550071	3639584	Stick Nest #18
0550071	3639584	Stick Nest #19
0549514	3640450	Stick Nest #20
0549514	3640450	Stick Nest #21
0549512	3640453	Stick Nest #22
0549514	3640450	One loggerhead shrike
0549488	3638826	Natural basin
0549488	3639795	Stick Nest #23
0549621	3638826	South end Transect 2, Section 27
0548862	3638824	South end Transect 4, Section 27

UTMs		*Observation*
South	***East***	
0548786	3639086	Open badger-size hole showing possible burrowing owl use
0548576	3639345	Burrowing owl flushed from burrow
0548568	3639376	Active burrowing owl burrow 160 feet north of above owl
0548505	3639663	Potential active burrowing owl burrow
0548506	3640061	Burrowing owl flushed from burrow
0548449	3640302	Two cattle troughs near NW corner of Section 27
0548449	3640445	Sick Nest #24
0548658	3640448	North end Transect 4, Section 27
0550114	3637547	West end Transect 2, Section 35
0550603	3637653	Potential burrowing owl burrow
0551014	3637672	Potential burrowing owl burrow
0551615	3637535	Dry stock tank
0551717	3637932	East end Transect 2, Section 35
0550054	3640404	North end of Transect 1, Section 27
0550105	3638812	South end of Transect 1, Section 27
0549309	3638805	North end of Transect 3, Section 27
0549212	3638869	1st burrowing owl observation
0549210	3638858	Active burrowing owl burrow
0549230	3638920	2nd burrowing owl observation
0549243	3638916	Active burrowing owl burrow
0549243	3638918	Active burrowing owl burrow
0549194	3638909	3rd burrowing owl observation
0549106	3638840	Active burrowing owl burrow
05409108	3638846	Active burrowing owl burrow
0549477	3640085	American Coot observation
Unknown	Unknown	South end of Transect 3, Section 27
0550043	3637377	West end of Transect 1, Section 35
0550874	3637467	Burrowing owl observation
0551724	3637505	East end of Transect 1, Section 35

UTMs		*Observation*
South	***East***	
	October 5, 2001	
0548186	3638838	South end Transect 2, Section 28
0548064	3639323	Potential burrowing owl burrow
0548040	3639367	Potential burrowing owl burrow
0548158	3639339	Potential burrowing owl burrow
0548058	3640322	Potential burrowing owl burrow
0548239	3640209	Agave Pipeline Corp. pipeline structure
0548167	3640446	North end Transect 2, Section 28
0548507	3636345	West end of Section 3 transect
0549208	3636314	East end of Section 3 transect
0548524	3636534	Culvert at road near west end of Transect 3
0548581	3636464	Loggerhead shrike
054887	3636363	Clump of planted pine trees next to driver training area
0548377	3638840	South end of Transect 1, Section 28
0548453	3640380	Loggerhead shrike/western box turtle
0548330	3640442	North end of Transect 1, Section 28